PATENT
BER06209P00012US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

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| In re Application Of: | ) | SYSTEM AND METHOD FOR ARCHIVING AND OUTPUTTING |
| Stephen E. Berkheimer | ) | DOCUMENTS OR GRAPHICAL ITEMS |
| Serial No.: 09/977,502 | ) | Examiner: Thuy N. Pardo |
| Filed: October 15, 2001 | ) | Art Unit: 2168 |

**LETTER OF TRANSMITTAL**

Mail Stop Appeal Briefs - Patent
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

The Appellant's Brief on Appeal is filed herewith together with our check in the amount of $255.00 to cover the filing fee for small entity. Please charge any additional fee or credit any overpayment to Deposit Account No. 23-0785.

Respectfully submitted,

Date: March 13, 2008

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**37 CFR 1.8**
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Corinne Byk

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## APPELLANT'S APPEAL BRIEF

Mail Stop Appeal Briefs - Patent
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

03/18/2008 SDENBOB3 00000031 09977502
01 FC:2402 255.00 OP

Sir:

This brief is in support of the Notice of Appeal filed November 13, 2007. A two month extension of time has been obtained.

## REAL PARTY IN INTEREST

The real party in interest is Steven E. Berkheimer, the applicant.

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**37 CFR 1.8**
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Signature: Corinne Byk
Corinne Byk

## RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

## STATUS OF CLAIMS

Claims 1-28 are pending in the application. The Office action summary indicates that claims 1-5 and 9-28 are rejected and claims 6-8 are objected to. The detailed action indicates that claims 6 and 7 are rejected. The rejections of claims 1-7 and 9-28 are being appealed.

## STATUS OF AMENDMENTS

An amendment was filed on March 5, 2008, to comply with a requirement of form with respect to the dependent claims.

## SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 specifies a method of archiving an item comprising presenting the item to a parser and parsing the item into a plurality of multi-part object structures wherein portions of the structures have searchable information tags associated therewith, see Fig. 2, step 104, and page 28, lines 20 and 21. The object structures are evaluated in accordance with object structures previously stored in an archive, see page 28, line 25 through page 29, line 5. An evaluated object structure is presented for manual reconciliation at least where there is a predetermined

variance between the object and at least one of a predetermined standard and a user defined rule, see page 17, lines 9-12; page 20, line 27 through page 21, line 7 and page 29, lines 16-21.

Independent claim 10 specifies an object oriented archival system 10, see Fig. 1, comprising a storage medium 14, see page 27, lines 12-14. A set of executable instructions for establishing an archive of documents represented by linked object oriented elements is stored in the medium, see page 27, lines 14-17. The archive exhibits minimal redundancy, see page 29, lines 2-5, with at least some elements linked to pluralities of the elements and wherein some of the instructions, in response to a selected editing command, alter at least one element common to a link to a selected plurality of other elements to thereby effect a one-too-many editing process and additional instructions for compiling an output file, in a selected format, see page 29, lines 6-21.

## GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 1-7, 9-10 and 12-19 are obvious over Tian et al. U.S. Patent No. 5,671,353 (hereinafter Tian) in view of Burnard et al. U.S. Patent No. Re. 37,722 (hereinafter Burnard)?

2. Whether claims 11 and 20-28 are obvious over Tian in view of Burnard and further in view of Ringness U.S. Patent No. 6,456,395?

## ARGUMENT

This application relates to an invention in the form of a system and method that provides unique capabilities, efficiencies and benefits in the storage, use, creation, management and

publishing of electronic documents as well as the associated text, graphical and image elements contained within the electronic documents. Because of the types of data the invention deals with and the types of uses that it enables, it can be said that the field of the invention is loosely associated with digital asset management (DAM) systems and content management (CM) systems as well as print or Web publishing systems, business and graphic arts document software applications and their respective technology and use variations. And although the invention has many of the capabilities of such systems and applications, it is unique in integrating the best features of such systems and applications in a single user focused system.

At the base of the invention is its unique data model, which addresses all aspects of defining electronic documents created or edited by any type of office or graphic arts software application. This includes text, graphical or image data originating from any other type of electronic or hard-copy source that has been subsequently converted or transformed to an electronic document.

The disclosed system's importing process is unique in that it provides an automated sequence of functions, which consists of: 1) converting electronic documents of all types and compositional layouts, which originated in any type of software application code format to a standardized software code format that preserves all document characteristics, content, content relationships and style attributes, 2) parsing imported documents into their various components using a unique data model, 3) comparing each component of imported documents to other imported document components when a batch-mode import of more than one document is involved, 4) comparing each imported document component to document components already in the system's archive, 5) automatically reconciling imported documents and document components to achieve

compliance with pre-determined rules when applicable, 6) eliminating redundant document and redundant document components according to pre-determined rules when applicable, 7) generating unique names for remaining imported documents and document elements, 8) generating tags for remaining document components so as to preserve their relationship to the documents from which they came 9) generating a report on the import, comparison, elimination and tagging results 10) archiving the imported document components according to the system's unique data model.

**GROUND 1**

**Claims 1, 2**

Independent claim 1 specifies a method of archiving an item comprising presenting the item to a parser; parsing the item into a plurality of multi-part object structures wherein portions of the structures have searchable information tags associated therewith; evaluating the object structures in accordance with object structures previously stored in an archive; presenting an evaluated object structure for manual reconciliation at least where there is a predetermined variance between the object and at least one of a predetermined standard and a user defined rule.

Tian et al. does not disclose or suggest a method of archiving an item. More particularly, it does not disclose presenting an item to a parser. Nor does it disclose parsing the item into a plurality of multi-part object structures. Nor does it disclose evaluating object structures in accordance with object structures previously stored in an archive. Finally, it does not disclose presenting an evaluated object structure for manual reconciliation.

Burnard does not disclose the deficiencies of Tian. Burnard is allegedly cited for teaching a method of archiving at an appropriate locale. However, Burnard does not disclose or suggest presenting an item to a parser. Nor does it disclose parsing the item into a plurality of multi-part object structures. Nor does it disclose evaluating object structures in accordance with object structures previously stored in an archive. Finally, it does not disclose presenting an evaluated object structure for manual reconciliation. Therefore, the combination does not result in the claimed invention. Moreover, the combination is improper.

35 U.S. C. 103(a) Argument 1 - Refutation of the Examiner's Assertions regarding the teachings of Tian.

1A. At the top of Page 3 in the Action the Examiner inaccurately asserts "Referring to Claim 1, Tian teaches a method of validating an item against a formal standard (i.e., a predetermined standard and a user defined rule) as claimed" and cites Figures 2-14 and the corresponding portion of Tian's specification for this disclosure.

Figures 2-14 of Tian provide illustrations and descriptions that teach the validation of a DICOM Message (per the DICOM Standard's requirements for DICOM Messages) in different scenarios involving DICOM Message type variables. Although it is understood that Tian teaches the validation of DICOM Messages to determine their conformance with the DICOM Standard and this is consistent with the examiner's assertion concerning a predetermined standard, the examiner fails to address the "and a user defined rule" portion of Claim 1. Per Claim 1 in the Application, "A method of archiving an item comprising: . . . presenting an evaluated object structure for manual

reconciliation at least where there is a predetermined variance between the object and at least one of a predetermined standard **and a user defined rule**".

The Examiner fails to cite evidence in Tian of any instance wherein Tian specifies that the invention taught therein validates an item against a predetermined standard *and* a user defined rule as claimed in the Application. This is because Tian provides no such teaching.

As it is the case that the invention taught in Tian teaches an invention that validates DICOM Messages and as it is the case that a DICOM Message is application executable which takes place between digital imaging devices and/or computers functioning in a digital medical imaging capacity, Tian provides no teaching of any kind that involves a user because, as has been presented earlier, the invention taught in Tian is developed based on a lower-level application framework, which the nature of Tian's application framework can not provide a user interface, which requires a high-level application framework.

Another aspect in which the Examiner's first assertion is inaccurate has to do with the Examiner's assumption that the validation of an item is substantially equivalent to the evaluation of an item. According to established dictionary definition there is a substantial difference between the validation of an item (per the claims and specification of Tian) and the evaluation of an item (per Claim 1 of the Application). By dictionary definition a validation is not equivalent to an evaluation, as to validate is to check or prove the validity or accuracy of (an item), to make or declare (an item) legally valid. Conversely, established dictionary definition of the term evaluate is defined as to form an idea of the amount, number, or value of (an item), to assess or estimate the nature, ability, or quality of (an item).

Further, as is stated in Claim 1 of the Application, "A method of archiving an item comprising:... evaluating the object structures in accordance with object structures previously stored in an archive" one sees that the examiner's argument that "Tian teaches a method of validating an item against a formal standard" has no relevance to Claim 1 of the Application as the Application makes no claim that is applicable to either a validation or an evaluation against a formal standard and instead, as stated above and in Claim 1 of the Application, the Application teaches that an item is archived in a manner that (among other things) comprises the evaluation of an item in accordance with object structures previously stored in an archive.

Although it can be accurately stated that the invention taught in Tian validates an item (DICOM Message) against a formal standard (DICOM Standard for DICOM Messages), it is inaccurate to state that Tian evaluates an item (as part of a method of archiving) in accordance with object structures previously stored in an archive, as is stated in Claim 1 of the Application.

1B. The Examiner's second assertion on Page 3 in Office Action inaccurately states "Tian teaches a method of archiving an item" and cites the Abstract, Background, Summary and description of a PACS in Tian.

In considering the Examiners assertion it is first noted that further on page 3 of the Office Action the Examiner concedes that "Tian does not explicitly teach archiving an item" but goes on to say "although it has the same functionality of validating object process that contain pictures, and to the archival thereof". A full review of the claims and specification of Tian reveals that Tian states that the invention taught therein exists **on or in** a PACS (see Tian Abstract and Summary of the Invention, i.e. The present invention provides an object oriented structure existing

**on** a digital computer or PACS and a method, executed **on** a digital computer or PACS), which is identified in Tian as an acronym for Picture Archival and Communications System and described in the Detailed Description of the Preferred Embodiment of Tian as, "The PACS typically comprises a plurality of computers, computer memories, memory storage disks, read only memories, random access memories, and workstations for viewing and interaction with digital medical imagery."

From this language one sees that the invention taught in Tian is a component of a plurality of computers, computer memories, memory storage disks, read only memories, random access memories, and workstations for viewing and interaction with digital medical imagery that comprise a Picture Archival and Communications System, which is not equivalent to an archive as it is known to one of ordinary skill in the art of archiving (an archivist).

It is obvious to one of ordinary skill in the art of archiving (an archivist), that an archive is a collection of materials, documents, records (data), which are selected based on an assessment of their value to the organization, group or individual providing the archive, which are subsequent to this assessment, organized and managed to ensure their preservation and access according to the interests of the organization, group or individual providing the archive. It is also obvious to one of ordinary skill in the art of archiving (an archivist) that archival software is a computer program designed to facilitate the management of an archive as described here.

It is further obvious and known by one of ordinary skill in the art of archiving (an archivist) that an archive (the noun) does not typically perform the function of archiving (the verb). It is further still obvious to one of ordinary skill in that art of archiving that the function of archiving (an input item) is fundamentally inclusive of the determination of that which should be archived,

which involves an assessment of the value of an item being considered for archiving (an evaluation) relative to the purpose of the archive and the determination of where an item chosen for archiving should be place in the archive based on an assessment (evaluation) of the organizational schema of the archive and previously archived items.

The invention taught in Tian, as claimed and specified stores warnings in the application validation list existing in computer memory (per the Summary of the Invention taught in Tian), stores warnings in the semantic validation warning list created in computer memory by an application requesting validation when the rules pertaining to the validation of DICM Messages are violated (per the Detailed Description of a Preferred Embodiment taught in Tian) and performs the function of storing as taught elsewhere in Tian.

Conversely, Tian provides no claim or specification of the invention taught therein being an archive or performing the function of archiving, either implicitly or explicitly.

1C. The Examiner's third assertion on Page 3 in the Office Action inaccurately states that Tian teaches a method of archiving an item comprising: "presenting the item [DICOM Message] to a parser" and cites Column 5, lines 38-58 as evidence.

Per the Examiner's citation:

> "The present invention provides object classes of rules and warnings, which do not exist in the DICOM standard. These rules and warnings semantically validate the thousands of possibilities using class rules, which are represented in a set of rule objects presented by the structure of the present invention. *(example omitted)* The rules are represented in a rule language and reduced to a string test representing each rule. The structure of the present invention reduces the string test to a set of tokens which are stored in a data dictionary existing in computer memory. This token structure enables parsing each rule. Thus a DICOM message is reduced to an element list and processed according to the data dictionary rules for semantic validation. When the rules are violated, the method of the present invention generates a semantic

warning and stores the warning in the semantic validation warning list created in computer memory by an application requesting validation.

Tian does not teach presenting the item [DICOM Message] to a parser or that the invention taught in Tian presents the item [DICOM Message] to anything that performs like a parser. What one sees instead is that the invention taught in Tian (with emphasis added) 1) "The present invention **provides object classes of rules and warnings**"; 2) "These rules and warnings semantically validate the thousands of possibilities using class rules, which are represented in a set of **rule objects presented by the structure** of the present invention"; 3) "**The rules are represented in a rule language and reduced to a string test representing each rule**"; 4) "The structure of the present invention **reduces the string test to a set of tokens**"; 5) "This token structure **enables parsing each rule**"; 6) "Thus **a DICOM message is reduced to an element list** and processed according to the data dictionary rules for semantic validation"; 7) "When the rules are violated, the method of **the present invention generates a semantic warning and stores the warning in the semantic validation warning list created in computer memory by an application requesting validation**".

Although one might infer from the Examiner's citation that a DICOM Message is presented to object classes of rules and warnings provided by the invention taught in Tian rather than the object classes of rules being presented to the DICOM Message as stated, one sees that it is the rules that are reduced to a string test, which is subsequently reduced to a set of tokens which enables "parsing each rule". With this noted, it is understood that the result of the process described is that a DICOM Message is reduced to an element list.

1D. The Examiner's fourth assertion on Page 3 in the Office Action inaccurately states that Tian teaches a method of archiving an item comprising: "parsing the item into a plurality of multi-part object structures [IODs]" and again cites Column 5 lines 38-58 and Column 6, line 41 et seq. and further asserts "wherein portions of the structures have searchable information tags associated therein" and cites Column 8, line 43 and Column 14, line 57 et seq.

Returning to the Examiner's cited Column 5 lines 38-58 in Tian one sees that as stated (with emphasis added), "Thus a DICOM Message is **reduced to an element list**". Clearly it is not the case, nor is it understood to be the case by one of ordinary skill in that art that an element list is equivalent to a multipart object structure.

In addressing the Examiner's assertion that an IOD is a multi-part object structure one sees from the Abstract in Tian that an IOD is part of that which comprises a DICOM Message, per the Abstract in Tian (with emphasis added), "**DICOM messages are comprised of** a plurality of elements. A plurality of these elements are grouped into a module. A plurality of modules are grouped into an Information Entity (IE). **A plurality of IEs are grouped into an Information Object Description (IOD)**. A plurality of IODs are grouped into a block. A plurality of blocks comprise a DICOM message."

As it is the case that a DICOM Message is comprised of an IOD (and other components) it is not possible for the invention taught in Tian to parse the item (DICOM Message as asserted by the Examiner) into a plurality of multi-part object structures (IODs) because the DICOM Message already contains IODs. Further, one sees no teaching in Tian that the IODs contained in a DICOM Message are removed from the DICOM Message.

Per Column 6, line 41 in Tian: "In a preferred embodiment of the present invention, an entity is used in an Entity-Relationship (E-R) model to represent a Real-World Object, class of Real-World Objects, or DICOM data representation, such as an IOD or Module." From this language and the examiner's citation of Column 5, lines 38-58 a relationship between the token structure that "enables parsing each rule" thus reducing "a DICOM message to an element list" to an entity used in an Entity-Relationship (E-R) model to represent a Real-World Object, class of Real-World Objects, or DICOM data representation, such as an IOD or Module is not specified in Tian.

Further, in the Detailed Description of a Preferred Embodiment of Tian the IOD is defined as: "An Information Object Definition (IOD) is an object-oriented abstract data model used to specify information about Real World Objects such as medical patients and their associated medical imagery. An IOD provides communication Application Entities with a common view of the information to be exchanged. An IOD does not represent a specific instance of a Real World Object, but rather a class of Real World Objects which share the same properties. From this language one sees that were a DICOM Message (input item) to be parsed **into** a multi-part object structure (**dissected into its parts**), IODs as is asserted by the Examiner, only part of the DICOM Message would be parsed and as a result of this parsing of a DICOM Message into a multi-part object structure, as is asserted by the Examiner, the DICOM Message would be deprived of that which provides Application Entities (applications present on digital medical imaging devices and computers used in a digital medical imaging capacity) with a common view of the information to be exchanged. Were this to be the case the DICOM Message could not be exchanged effectively between digital medical imaging devices and computers used in a digital medical imaging capacity,

which would render the DICOM Message invalid according to the DICOM Standard for DICOM Messages, which is a result that is antithetical to the claims and specifications of the invention taught in Tian.

One of ordinary skill in that art understands that in some cases parsing is divided into lexical analysis and semantic parsing where lexical analysis concentrates on dividing strings into components called tokens and semantic parsing then attempts to determine the meaning of the string. One of ordinary skill in that art also knows that this type of semantic parsing makes use of a dictionary rather than a parser and that a parser is used in another form of parsing, wherein source code is converted/translated into object code through the use of a parser, which is sometimes also called a compiler.

In light of this distinction and the specification of Tian, the invention taught creates tokens which are derived from object classes of rules provided by the invention and stored in a data dictionary and used to "parse" a DICOM Message into an element list, via a dictionary which is subsequently processed according to the data dictionary rules for semantic validation as described in the Detailed Description of a Preferred Embodiment in Tian, which is not equivalent to "parsing" a DICOM Message into a plurality of multi-part object structures via a parser, as claimed in the Application.

Also per the Summary of the invention in Tian one sees a description of the Tian's process for validating a DICOM Message, via dictionary rather than parser, wherein it states (with emphasis and step sequence added), "In one aspect of the present invention **a method for validating a DICOM message is presented comprising the steps of** [1] transforming a piece of

radiological film into a digital image; [2] storing the digital image in computer memory; [3] encapsulating the digital image in a DICOM message in computer memory; [4] **accessing a dictionary** in computer memory to obtain a list of elements and modules comprising the DICOM message; [5] building a validation list in computer memory for the DICOM message; [6] **accessing a dictionary** in computer memory to obtain a set of rules for validating the elements and modules comprising the DICOM message; [7] **accessing a dictionary** in computer memory to obtain a set of warnings associated with the rules for validating the elements and modules comprising the DICOM message; [8] applying the rules to the elements and modules comprising the DICOM message; [9] generating a warning when an element or module violates a rule; [10] storing the warning in the validation list in computer memory so that an application which generated the DICOM message can examine the validation list to determine whether the DICOM message is semantically usable".

Further to the fact that Tian does not teach the parsing of digitized medical imagery into a plurality of multi-part object structures one sees form the above cited Summary of the Invention taught in Tian that Tian also does not teach the parsing of DICOM Messages into a plurality of multi-part object structures (as claimed in the Application) and instead Tian teaches a method wherein the DICOM Message remains in composite form, as is specified in the Summary of the Invention the present invention a method is taught for validating DICOM Messages wherein 1) a dictionary is accessed to obtain a list of elements and modules comprising the DICOM message; 2) a validation list is built for the DICOM message; 3) a dictionary is accessed to obtain a set of rules for validating the elements and modules comprising the DICOM message; 4) a dictionary is accessed

to obtain a set of warnings associated with the rules for validating the elements and modules comprising the DICOM message; 6) the rules are applied to the elements and modules comprising the DICOM message; 7) a warning is generated when an element or module violates a rule; 8) the warning is stored in the validation list.

In other words, the invention taught in Tian accesses a dictionary to obtain a list (elements and modules comprising the DICOM message), builds a validation list (for the DICOM Message), accesses a second dictionary to obtain a set of rules, accesses a third dictionary to obtain a set of warnings associated with the rules, applies the rules to the elements and modules comprising the DICOM message and generates a warning when applicable to the validation of a DICOM Message. The only plurality of multi-part object structures involved with this method are those present in a composite DICOM Message, which remains in composite form throughout the steps involved with the method Tian specifies.

1E. The Examiner's fifth assertion on Page 3 in the Office Action inaccurately states that Tian teaches a method of archiving an item comprising: "evaluating the object structures [semantic validation] in accordance with object structures previously stored [rules] in an archive and again cites Column 5 lines 38-58, as well as all of Operational Scenarios section beginning in Column of Tian.

As above, the Examiner assumes that the validation of an item is substantially equivalent to the evaluation of an item. According to established dictionary definition there is a substantial difference between the validation of an item (per the claims and specification of Tian) and the evaluation of an item (per Claim 1 of the Application). A validation is not equivalent to an evaluation, as to validate is to check or prove the validity or accuracy of (an item), to make or declare

(an item) legally valid. Conversely, the term evaluate is defined as to form an idea of the amount, number, or value of (an item), to assess or estimate the nature, ability, or quality of (an item).

Further, as is stated in Claim 1 of the Application, "A method of archiving an item comprising: . . . evaluating the object structures in accordance with object structures previously stored in an archive" one sees that the examiner's argument that "Tian teaches a method of validating an item against a formal standard" has no relevance to Claim 1 of the Application as the Application makes no claim that is applicable to either a validation or an evaluation against a formal standard and instead, as stated above and in Claim 1 of the Application, the Application teaches that an item is archived in a manner that (among other things) comprises the evaluation of an item in accordance with object structures previously stored in an archive.

1F. The Examiner's sixth assertion on Page 3 in the Office Action inaccurately states that Tian teaches a method of archiving an item comprising: "presenting the evaluated object structures for manual reconciliation" and cites Column 10, lines 25-29 in Tian and goes on to inaccurately assert that "at least where there is a predetermined variance between objects and at least one of a predetermined standard and a user defined rule [when a semantic warning is generated during validation".

As discussed above, Tian provides no teaching of an evaluation of the object structures of an input item. The Examiner's sixth assertion is inaccurate on this basis. Additionally, the examiner fails to address the "and a user defined rule" portion of Claim 1 in the Application. Per Claim 1 in the Application, as discussed above.

The Examiner fails to cite evidence in Tian of any instance wherein Tian specifies that the invention taught therein validates an item against a predetermined standard and a user defined rule as claimed in the Application. This is because Tian provides no such teaching. The

invention taught in Tian is developed on a lower-level application framework, which means that the invention taught provided basic system software services (communications as claimed and specified in Tian) and is not developed on a high-level application framework that provides for user interfaces.

In response to the Examiner's citation of Column 10, lines 25-29 as support for the Examiner's sixth assertion that an application developer, by virtue of a warning returned to the application invoking validation (of a DICOM Message), is enabled to identify and correct errors in a DICOM Message is inaccurate because as stated in Claim 1 and per the Examiner's sixth inaccurate assertion the application developer can't identify and correct an error (relative to a predetermined standard "and a user defined rule") if the invention taught in Tian does not allow for user defined rules.

1G. The Examiner's seventh assertion on Page 3 in the Office Action inaccurately states that Tian "has the same functionality of validating object process that contain pictures, and to the archival thereof".

It is understood that Tian teaches the validation of DICOM Messages that, in some cases contain pictures (digitized medical images), but as has been addressed, Tian does not provide the same functionality of archiving an item as the function of archiving is known to one of ordinary skill in the art of archiving that the function of archiving entails the determination of that which should be archived, which involves an assessment of the value of an item being considered for archiving (an evaluation) relative to the purpose of the archive and the determination of where an item chosen for archiving should be place in the archive based on an assessment (evaluation) of the organizational schema of the archive and previously archived items.

In further consideration of the Examiner's assertion that Tian performs the function of archiving or that the invention taught therein has the same functionality of archiving an item as claimed in the Application it is pointed out that the invention taught in Tian does not meet the Graham Factors requirements of the function, way, result test (Graham et al. v. John Deere Co. et. al. 383 U.S. 1 (1966)).

The invention taught in Tian also does not present an item to a parser (that which dissects and converts source code into object code), as the invention taught in Tian has no parser. The invention taught in Tian also does not parse (dissect and convert source code into object code) an item into a plurality of multi-part object structures wherein portions of the structures have searchable information tags associated therewith, as the tags of invention taught in Tian are contained in dictionaries and are not contained within the plurality of multi-part object structures resulting from any parsing step. The invention taught in Tian also does not evaluate object structures, resulting from any parsing step, in accordance with object structures previously stored in an archive. It is noted that in addition to the invention taught in Tian not substantially providing the same function in substantially the same way as the invention taught in the Application (as claimed), the invention taught in Tian is incapable of evaluating the object structures, resulting from any parsing step, in accordance with object structures previously stored in an archive because Tian provides no teaching of an archive, and in stead states that the invention taught resides on or in a Picture Archival and Communication system. The invention taught in Tian also does not present an evaluated object structure for manual reconciliation at least where there is a predetermined variance

between the object and at least one of a predetermined standard and a user defined rule, as the invention taught in Tian has no and is incapable of having user defined rules.

Further to the Graham test on the invention taught in the Application, the invention taught in Tian does not produce the same result of that taught in the Application, in that the invention taught in Tian does not result in the archived plurality of multi-part object structures that 1) include at least some of item properties, item property values, element properties and element property values; 2) documents are represented by linked object oriented elements stored in the medium, wherein the archive exhibits minimal redundancy with at least some elements linked to pluralities of the elements; 3) archived object oriented elements comprise a data structure which incorporates document properties and associated values; 4) a document can be represented by a plurality of linked object-type data structures which include document properties; document property values, element properties and element property values.

Pertaining to the references to documents in the claims of the invention taught in the Application, Tian provides no teaching pertaining to documents and it is understood from standard dictionary definition that a document is a piece of written, printed, or electronic human readable matter that provides information or evidence or that serves as an official record and a message as taught in Tian is understood from standard dictionary definition to be a non-human readable electronic communication generated by a computer program (on a medical imaging device and/or a computer used in a medical imaging capacity) and passed to a second computer program (on a medical imaging device and/or a computer used in a medical imaging capacity).

1H. The Examiner's eighth assertion on Page 3 in the Office Action inaccurately states that "Burnard teaches a method of archiving objects at the appropriate locale in the archive" and cites ab; fig. 3B, 26, 27; col. 13, lines 52 to col. 14, lines 54.

Suspending, momentarily, the issue of whether the invention taught in Burnard teaches a method of archiving objects at the appropriate locale in the archive, the Application makes no claim of archiving "at the appropriate locale in the archive". It is noted that Burnard's reference to locale applies to the locales illustrated and described pertaining to Figure 3A, wherein it is established that all but the root locale are specific to language and geographic variations required to "localize" application programs as taught in Burnard.

Per Figure 3A in Burnard (with emphasis added), "Referring to FIG. 3A, the illustrative locale hierarchy begins at the root locale 300 and includes a "language" level 302, a "country" level 304 and a "regional" level 308. Assume that a application program which requires five user interface objects (Object 1-Object 5) was originally written in Chinese. In accordance with the operation described above, the five objects are stored in the archive in the root locale 300 with embedded text in Chinese. However, of these five objects, only object 4 and object 5 actually include embedded text, the remainder of the objects contain generic graphics. Next, assume that the application must be translated for use in the Pacific Time Zone 310 of the regional level 308 and requests the five objects from the Pacific Time Zone 310. The archive examines the locale 310 and determines that Objects 1 and 5 are present in the locale having been translated for the Pacific Time Zone. The archive then moves to the next higher level (the country level 304) looking for Objects 2, 3 and 4 which were not found in the Pacific Time Zone locale 310". Also see Burnard Figure 3A.

Having noted the nature of Burnard's references to "locales" one now turns to the Examiner's cited Figure 3B in Burnard, which states (with emphasis added), "**FIG. 3B is a block diagram of a TArchiveModel in accordance with a preferred embodiment of the invention**. The Constructor document contains a TArchiveModel 380, a subclass of TModel, the standard storage model of a TAL application. The TArchiveModel implements the locale tree with a TDictionary. The dictionary contains a sparse representation of the locale hierarchy 381. If an object exists in some locale 382, there is an item in the dictionary for the locale the object lives in. Empty locales are not stored in the dictionary 390. The key for retrieving items in the dictionary is a TLocale shown at label 391. The values stored in the dictionary are TArrays 392. Each element in the array is a TDocumentComponentReference 383. The reference eventually points to a subclass of a TEscortModel 384. The escort model contains one or more escorts. For example, the TEscortModel 384 contains a hierarchy of TViewEscorts (TObjectEscort 385) exactly matching the view hierarchy being edited. Each escort 385 has a pointer to the actual object 386".

From the above text cited by the Examiner one sees that Figure 3B and its associated text provides an overview description of a TArchiveModel and associated components of the invention taught in Burnard. From this portion of the Examiner's citation, however, one sees that a method of archiving (objects at the appropriate locale in the archive) is not taught.

Moving to the next portion of the Examiner's citation in Burnard (with emphasis added) "**The archive tree viewer (TArchiveTreeViewer) is a display class used for examining the contents of the Constructor document, or TArchiveModel.** The TArchiveTreeViewer is based on an actual tree class. Each node in the tree is a TLocaleLabel that represents every locale in the

Taligent locale hierarchy (not just the sparse locale hierarchy stored in the TArchiveModel). Each TLocaleLabel also holds references to each of the escort models stored in the locale. It uses these references to display the escort's name and to allow the user to directly manipulate the escort. The user can interact with the label to rename it, drag it to another locale to localize the object, cut and paste, etc. The tree and each label can be expanded and collapsed to show and hide information"

From the text above cited by the examiner, one sees a continuation of Burnard's overview description, now referring to TArchiveTreeViewer and associated components taught in Burnard. From this portion of the Examiner's citation, one also sees that a method of archiving (objects at the appropriate locale in the archive) is not taught.

Moving to the next portion of the Examiner's citation in Burnard (with emphasis added) "Constructor Locale Gallery - **The Constructor Locale Gallery provides a view of all objects available in a particular locale in an archive**. The view obeys archive locale searching rules and shows objects defined in one locale as well as those visible in parent locales. Therefore the view allows the developer to see the complete set of objects available for a particular locale".

From the text above cited by the examiner, one sees a continuation of Burnard's overview description, now referring to the Constructor Locale Gallery taught in Burnard. From this portion of the Examiner's citation, one continues to see that a method of archiving (objects at the appropriate locale in the archive) is not taught.

Moving to the next portion of the Examiner's citation in Burnard (with emphasis added) "Archive Structure - **Archives store named objects in a hierarchy. The objects stored are typically user interface elements or other items that may need to be customized for different**

**languages or nationalities**. As an example, FIG. 19 illustrates a typical archive hierarchy containing menus, dialogs and icons. **The locales are arranged in a tree, starting at the "Root" locale**. The hierarchy reflects the relationships among languages and places, so the "French" locale 1900 is the parent of both "France" and "French Canada" 1910.

**Objects are stored in locales according to how much they have been customized**. Completely generic objects that apply everywhere are stored in the Root locale 1920. Objects specific to a place are stored in that place's locale. When a program reads an object from the archive, for example when displaying a menu, it asks the archive for an object of a particular name for a particular locale. **The archive searches the specified locale, returning the object if it is found.** If not, the archive searches the parent locale for the named object, and continues searching all the way up to the Root locale if necessary. So, in the above example if my current locale were France and my program asked the archive for an object named "Menu1", the object stored in the France locale would be returned. If it asked for an object named "Menu2", the object stored in the French locale would be returned. If it asked for an object named "Icon1", the object stored in the Root locale would be returned.

From the text above cited by the examiner, one sees a continuation of Burnard's overview description, now referring to the archive structure taught in Burnard. From this portion of the Examiner's citation, one continues to see that a method of archiving (objects at the appropriate locale in the archive) is not taught.

From the Examiner's citation of Figures 26 and 27, it states in Burnard (with emphasis added), "The importing of objects **from an archive** is performed in a similar manner as

shown in **FIGS. 26-30 which are detailed flowcharts of import logic in accordance with a preferred embodiment**. Processing in FIG. 26 commences at terminal 2600 where an import archive command is first encountered. Encountering the command immediately results in an import file being opened as shown in function block 2610, instantiation of an importer as shown in function block 2620 and parsing the file as shown in function block 2630 and detailed in FIG. 27.

**FIG. 27 presents the detailed logic associated with parsing an import file in accordance with a preferred embodiment.** Processing commences at terminal 2700 where a file to be imported is presented for processing. First, the file is scanned to identify the first token as shown in function block 2710 and an immediate test is performed at decision block 2720 to determine if the token is a Locale. If it is, then the string is parsed to determine the locale name as shown in function block 2730 and control is passed to function block 2710 to get the next token which should correspond to the named. If the token is not Locale, then a test is performed at decision block 2740 to determine if the token is an Escort. If not, then control is returned to function block 2710 to get the next token. If the token is an escort, then the escort type and name is read, a status message displayed and the next token is obtained as shown in function block 2760. Then control passes to FIG. 28 via terminal 2769.

From the examiner's above citation one sees that a method of importing an item is taught, but one also sees that a method of archiving (objects at the appropriate locale in the archive) is not taught. In light of the failure of the examiner's citations to evidence the archiving ("objects at the appropriate locale in the archive", as asserted by the Examiner or an item, as stated in Claim 1 of the Application) one conducts a further examination of the invention taught in Burnard and finds

that the invention taught in Burnard contains "a user interface object archive" and claims a "user interface object archive system", but does not teach the archiving of either objects at the appropriate locale in the archive or of an item as taught in Claim 1 of the Application.

35 U.S. C. 103(a) Argument 2 - Refutation of Obviousness on the Basis of Substantial Improbability that One Skilled in the Art of Tian Would have Cause to be Aware of the Invention Taught in Burnard.

2A. Fundamental Differences in the Respective Fields of Application (arts) for the Invention Taught in Tian and the Invention Taught in Burnard Constitute a Substantial Improbability that One Who is Aware of the Invention Taught in Tian Would Have Cause to be Aware of the Invention Taught in Burnard.

The examiner's assertion "that it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the features of Burnard to Tian's system as an essential means to allow the validation of object occurs and stores at the appropriate locale within the archival system" assumes a probability that one of ordinary skill in the art of Tian would have reasonable cause to be aware of the teachings of Burnard.

The invention taught in Tian provides methods and apparatus for validating DICOM Messages, which are defined by the DICOM Standard as system executables exchanged between medical imaging devices and/or computers utilized in a medical imaging capacity. As such, one of ordinary skill in the art of DICOM Message validation, as is explicit in Tian, knows that the skill involved with the invention taught in Tian is extremely specialized given the uniqueness, complexity and extensiveness of the DICOM Standard's requirements for DICOM compliant messages. (see Tian claims and specification, as well as PS 3.7: "Message Exchange" and associated

documentation of the DICOM Standard, i.e. Annex C to Part 3, Part 5 and Part 6 as referenced in Tian's Detailed Description of a Preferred Embodiment)

The invention taught in Burnard provides a system, methods and computer program products for translation of the user interfaces of an application developed for a first language-specific locale to the user interfaces of an application for a second different language-specific locale (user interface localization). As such, one of ordinary skill in the art of user interface localization, as is explicit in Burnard, knows that the skill involved with the invention taught in Burnard is extremely specialized given the complexity and extensiveness involved with the field to which Burnard applies, which includes the many nuances of multiple operating systems (see Burnard's reference to IBM PS/2 and Apple Macintosh operating systems in its Detailed Description of a Preferred Embodiment), the range of different types of applications for which the invention taught in Burnard provides user interface localization (as is evidenced throughout the claims, drawings and specification of Burnard, the invention taught does not specify any limitation as to the types of applications it localizes user interfaces).

Given the level of specialization involved with the field of the invention taught in Tian and the field of the invention taught in Burnard and that these specialized fields are not the same, overlapping or conventionally complementary, it is substantially improbable that one skilled in the art of the field pertaining to Tian would also be skilled in the art of the field pertaining to Burnard. It is also substantially improbable, given the extent and difference of fields of skill specialization differences between the invention taught in Tian and the invention taught in Burnard, that one who is skilled in the field pertaining to Tian would be aware of the invention taught in

Burnard, or that one who is skilled in the field pertaining to Burnard would be aware of the invention taught in Tian.

If one skilled in the art, as the examiner asserts, is aware of the teachings of Tian but is unaware of the teachings of Burnard, or if one skilled in the art, as the examiner asserts, is aware of the teachings of Burnard but is unaware of the teachings of Tian, it can not be possible for one skilled in the art to find it obvious to add the features of Burnard to Tian's system because of their lack of awareness of both teachings.

2B. Fundamental Differences in the Essential Functionality of the Invention Taught in Tian and the Invention Taught in Burnard Constitute a Substantial Improbability that One who is Aware of the invention Taught in Tian Would Also Have Cause to be Aware of the Invention Taught in Burnard.

Beyond the differences between the fields and associated skills pertaining to the invention taught in Tian and the invention taught in Burnard, there are substantial differences in functionality between the invention taught in Tian and invention taught in Burnard that increase the improbability that one who is aware of the invention taught in Tian would be also aware of the invention taught in Burnard.

One such functional difference has to do with the application framework utilized in Tian in contrast to the application framework utilized by Burnard. Application frameworks are fundamental to application development and involve specializations unique to each application framework. Per Burnard: "There are many kinds of application frameworks available, depending on the level of the system involved and the kind of problem to be solved. The types of frameworks

range from high-level application frameworks that assist in developing a user interface, to lower-level frameworks that provide basic system software services such as communications, printing, file systems support, graphics, etc."

As it is known to one of ordinary skill in the art and evidenced by Burnard's description and the DICOM Standard's specification for DICOM Messages, the invention taught in Tian is developed on a lower-level application framework as it applies to the communications (messages) between medical imaging devices and/or computers used in a medical imaging capacity. As it is also known to one of ordinary skill in the art and evidenced by the description provided by Burnard in its Detailed Description of a Preferred Embodiment, Burnard is developed on a high-level application framework as it applies to user interfaces.

As it is further known to one of ordinary skill in the art, an application framework is a software framework that is used to implement the standard structure of an application for a specific operating system, which defines the overall architecture of a software system, that is to say the system's basic components and the relationships between them. Each type of application framework involves a level of specialization that renders it substantially improbable that one who is skilled in the application framework of Tian would also be skilled in the application framework of Burnard and as such, this improbability contributes to the improbability that one who is aware of the invention taught in Tian would also have reasonable cause to be awareness of the invention taught in Burnard.

2C. Fundamental Differences in the Types of Interactions Involved with the Invention Taught in Tian and the Invention Taught in Burnard Constitute a Substantial Improbability

that One Who is Aware of the Invention Taught in Tian Would Have Cause to be Aware of the Invention Taught in Burnard.

Another functional difference between the application taught in Tian and the application taught in Burnard has to do with the differences in skill specializations pertaining to the type of interaction operability of the invention taught in Tian and the type of interaction operability taught in Burnard.

In the case of Tian the invention taught functionally operates to determine the validity of a message (communication) that takes place between one medical imaging device and/or computer used in a medical imaging capacity and another medical imaging device and/or computer used in a medical imaging capacity. Conversely, the invention taught in Burnard functionally operates to establish a change in user interface factors (text, graphics and spacial) between one language-specific locale and another language-specific locale. The respective functional operability interaction differences between the invention taught in Tian and the invention taught in Burnard each involve different types skill specialization that in conjunction with the field specialization and application framework differences between these respective inventions further increases the improbability that one skilled in the art of Burnard would have cause to be aware of Tian's system.

35 U.S. C. 103(a) Argument 3 - Refutation of Functional Effectiveness Resulting from the Addition of the Features of Burnard to Tian's System.

It is obvious to one of ordinary skill in the art that the features of Burnard can not be added to Tian's system in a manner that would predictably "allow the validation of object occurs and

stores at an appropriate locale within the archive system", as asserted by the examiner. The differences in application framework between the invention taught in Tian and the invention taught in Burnard are known to one of ordinary skill in the art to not be compatible and that were one to add the features of Burnard to Tian's system this lack of compatibility would not predictably "allow the validation of object occurs and stores at an appropriate locale within the archive system", as asserted by the examiner.

Further, it is known to one of ordinary skill in the art that the differences in interaction type taught in Tian (interaction via messages between medical imaging devices and/or computers utilized in a medical imaging capacity) and the interaction type taught in Burnard (user interaction via user interfaces in application programs) would not allow Burnard's features to be added to Tian's system in a manner that would "allow the validation of object occurs and stores at an appropriate locale within the archive system", as asserted by the examiner.

3A. Fundamental Differences Between the Data Model Taught in Tian and the Data Model Taught in Burnard Prohibit Functionality when Adding the Features of Burnard to Tian's System.

It is known to one of ordinary skill in the art that the data model determined for the development of an object oriented application program is fundamentally critical to the object oriented application program predictably producing intended results. As it is further known to one of ordinary skill in the art, the data model of an object oriented application program is the underlying basis for the development of such an application program and is principle to the functioning of such an application program.

One of ordinary skill in the art also knows that as taught in Tian the data model at the basis of the development and functioning of the Tian invention can not be combined with the data model which is at the basis of the development and functioning of the invention taught in Burnard in a manner that would "allow the validation of object occurs and stores at an appropriate locale within the archive system", as asserted by the examiner.

The data model on which the invention taught in Tian is based is unique to the DICOM Standard, which differs from other object oriented data models in that the DICOM data model groups information into data sets. An example know to one of ordinary skill in the art of the DICOM Standard is that a digital image file which is compliant with the DICOM Standard also contains the identity of the patient from whom the digital image was taken such that the identity of the patient is can never be separated from the digital image taken of the patent. Additionally, a DICOM data object consists of a number of attributes which are not found in other data models such as patient-specific information and has been established to accommodate multi-dimensional and multi-frame images such that three and four dimensional images can be encapsulated in a single DICOM object.

The DICOM data model is used for all applications, including network usage, file usage and DICOM Message structure. As referenced from the Abstract in Tian:

> "The present invention provides an object oriented structure existing on a digital computer or PACS and a method, executed on a digital computer or PACS. The invention comprises a structure providing a plurality of semantic definition and validation objects and a method which semantically validates a DICOM message by passing the message through the structure. DICOM messages are comprised of a plurality of elements. A plurality of these elements are grouped into a module. A plurality of modules are grouped into an Information Entity (IE). A plurality of IEs

> are grouped into an Information Object Description (IOD). A plurality of IODs are grouped into a block. A plurality of blocks comprise a DICOM message. The semantic validation objects provide a structure and method for defining, examining and semantically validating the Elements, Modules, IEs, IODs, and Blocks which comprise a DICOM message."

Additionally, the data model on which the development and functionality of the invention taught in Tian is based is substantially complex and involves sub-data models within the overall DICOM Message data model as indicated in the Detailed Description of a Preferred Embodiment in Tian wherein it is described that an aspect of the data model on which the development and functionality of the invention taught is based includes the IOD which is described as:

> "An Information Object Definition (IOD) is an object-oriented abstract data model used to specify information about Real World Objects such as medical patients and their associated medical imagery. An IOD provides communication Application Entities with a common view of the information to be exchanged. An IOD does not represent a specific instance of a Real World Object, but rather a class of Real World Objects which share the same properties. An IOD which represents a single class of Real World Objects is referred to as a Normalized Information Object. When, in addition, an IOD includes information about related Real World Objects it is referred to as a Composite Information Object Definition (IOD)."

Similarly the data model on which the invention taught in Tian is based also contains multiple instances of sub-data models within the overall Tian data model as evidenced by Tian's description of multiple different types of sub-data models (information models) in its Detailed Description of a Preferred Embodiment. See Tian's description of DTImDictionary, DTGNVImWarning, DTGVUnpermittedWildcard, DTGVUniqueKeyMissing, Figure 6, Figure 7 and Figures 15 -18.

Conversely, the data model on which the development and functionality of the invention taught in Burnard is based is a conventional hierarchical data model as evidenced by its hierarchical tree structure described in Claim 1 of Burnard:

> "A localized user interface object archive system for use in a computer system having a storage means for translating a first application program which includes language specific to a first locale to a second application program includes language specific to a second locale under control of a program developer, the archive system comprising: means controlled by the developer for creating a hierarchical locale tree in the storage means, the locale tree having a root locale and at least one other locale level representing the second locale;"

It is understood by one of ordinary skill in the art that one can not effectively combine a unique data model comprised of grouped object sets, as is the case for the invention taught in Tian, with a hierarchical tree data model, as is the case for the invention taught in Burnard without rendering one or both of the respective Tian and Burnard inventions inoperable.

Further, it is understood and obvious to one of ordinary skill in the art of object oriented application development from the drawings of data structures and methods provided in the respective specifications of Tian and Burnard, that the features of the respective Tian and Burnard inventions can not be effectively combined due to their inconsistency of data model and their differences in function (methods), which are derived from the respective data models of Tian and Burnard.

Another example of the data model incompatibility between the invention taught in Tian and the invention taught in Burnard has to do with Burnard's method of storage in the "localized user interface object archive system" of Burnard. Per Figure 3A and its associated

description in Burnard, Figure 3A illustrates Burnard's hierarchical tree model and describes this drawing as follows: "FIG. 3A is a schematic diagram of a locale tree illustrating the manner in which user interface objects are stored in an archive".

As is understood by one of ordinary skill in the art the manner in which user interface objects are stored in the "localized user interface object archive system" of Burnard is not at all compatible with the data model of Tian and is incapable of allowing "the validation of object occurs and stores at the appropriate locale within the archive" because the locales provided by Burnard are either a root locale from which language-specific locales are derived or locales are language-specific, either one of which is incapable of preserving the data model (data structure) of the invention taught in Tian.

On the basis of the differences between the respective Tian and Burnard data models and the subsequent functional (methods) determined by these data models it can not be obvious to one of ordinary skill in the art to add the features of Burnard to Tian's system because the addition of Burnard features to Tian's system would not result in an invention that predictably would "allow the validation of object occurs and stores at an appropriate locale within the archive system", as asserted by the examiner.

3B. Fundamental Differences Between the Essential Functional Components of the invention Taught in Tian and the Invention Taught in Burnard Prohibit Functionality when Adding the Features of Burnard to Tian's System.

Beyond the differences in data models, which are fundamental to the features and functions of the invention taught in Tian and the invention taught in Burnard, there are other

substantive differences between these inventions that would prohibit one of ordinary skill in the art from finding the addition of the features of Burnard to Tian's system possible in a manner that would predictably "allow the validation of object occurs and stores at an appropriate locale within the archive system", as asserted by the examiner.

Per the Abstract in Burnard:

> "The user interface objects which are stored in an archive are actually created via a predefined "constructor" program, and, in order to allow newly-created user interface objects to use the predesigned constructor program, each user interface object is contained in a special "escort" object that interfaces with the constructor program".

As described above, it is the constructor program which creates the user interface objects which are stored in the "localized user interface object archive system" taught in Burnard. This being the case, one of ordinary skill in the art understands that it is not possible for the validation objects involved with the invention taught in Tian to be stored in the "localized user interface object archive system" taught in Burnard because the validation objects involved with the invention taught in Tian are the result of the comparison of a DICOM Message to the dictionaries provided by the invention taught in Tian and are not created via a predefined "constructor" program.

As is taught in the Abstract of Burnard

> "The user interface objects which are stored in an archive are actually created via a predefined "constructor" program, and, in order to allow newly-created user interface objects to use the predesigned constructor program, each user interface object is contained in a special "escort" object that interfaces with the constructor program. Both the user interface object and the escort object are stored at the appropriate locale in the archive, but when an archived object is requested, the related escort object is queried and streams out the attributes of the enclosed UI object."

From this description in Burnard it is understood by one skilled in the art that the constructor program could not create the user interface objects were it not for the encapsulation of the user interface objects in special escort objects which interface with the constructor program, enables queries of and streams out the attributes of the enclosed UI object.

From the above, it is understood by one of ordinary skill in that art that the special escort object of Burnard is designed to encapsulate user interface objects and not objects resulting from the validation of DICOM Messages, per Tian, and that because of this, the special escort objects of Burnard would not be able to encapsulate the objects resulting from the validation of DICOM Messages. Associated with this and suspending for a moment that Burnard's special escort objects could not encapsulate the objects resulting from the validation of DICOM Messages, it is also understood by one of ordinary skill in that art that were it possible for the special escort object of Burnard to be able to encapsulate the objects resulting from the validation of DICOM Messages, these encapsulated objects resulting from the validation of DICOM Messages would not subsequently be recognizable to the invention taught in Tian, which would render then useless to the invention taught in Tian.

Relative to this and as has been stated earlier in this document, the respective application frameworks of Tian and Burnard are not compatible with one another (the invention of Burnard being of a high-level application framework and the invention of Tian being of a lower-level application framework) one skilled in the art understands that it would not be possible to effect a solution that would enable the escort object essential to the functioning of Burnard to effectively interact with objects resulting from the validation of DICOM Messages in Tian.

3C. Fundamental Differences Between the Methods of the Invention Taught in Tian and the methods of the Invention Taught in Burnard Prohibit Functionality when Adding the Features of Burnard to Tian's System.

It is understood by one of ordinary skill in the art from a review of the respective methods claimed by Tian and Burnard that the methods of Tian are substantially different from the methods of Burnard and the methods of Tian, as well as the methods of Burnard fail to suggest a manner in which the features of Burnard could be added to Tian's system such that this addition would "allow the validation of object occurs and stores at an appropriate locale within the archive system", as asserted by the examiner.

This being the case it is not possible that one of ordinary skill in the art could find it obvious to add the features of Burnard to Tian's invention, as to do so would not result in an invention that would "allow the validation of object occurs and stores at an appropriate locale within the archive system", as asserted by the examiner, on the basis of the respective methods of Tian and Burnard.

Said differently, it can not be obvious to one of ordinary skill in the art to "add the features of Burnard to Tian's system as an essential means to allow the validation of object occurs and stores at the appropriate locale within the archival system" if it is not obvious to one of ordinary skill in the art how this addition could be achieved.

For the above reasons the rejection of claims 1 and 2 is improper and ought be reversed.

**Claim 3**

The Examiner's assertion on Page 4 in the Office Action inaccurately states "Referring to Claim 3, Tian and Burnard teach the invention substantially as claimed. Tian further teaches the method of Claim 1, as above, which includes, before the parsing step, converting an item [e.g. 'digitized medical imagery'] to a standardized format [DICOM Message format] for input to the parser [see Summary of the Invention section] as claimed".

Claims 1 and 3 collectively provide a sequence of method steps that teach a function and way of archiving an item, which is indicated in sequential order as claimed below (with emphasis added):

| | |
|---|---|
| Step 1) | Per Claim 3, (a method as in Claim 1 - before the parsing step) converting **an input item** to a standardized format for input to the parser |
| Step 2) | Per Claim 1, presenting **the item** to a parser |
| Step 3) | Per Claim 1, parsing **the item** into a plurality of multi-part object structures wherein portions of the structures have searchable information tags associated therewith |
| Step 4) | Per Claim 1, evaluating the object structures in accordance with object structures previously stored in an archive |
| Step 5) | Per Claim 1, presenting an evaluated object structure for manual reconciliation at least where there is a predetermined variance between the object and at least one of a predetermined standard and a user defined rule. |

The deficiencies with respect to the elements of claim 1 and the cited references are argued above.

It is first noted that the Examiner's third assertion on page 3 of the Office Action states (with emphasis added), "Tian teaches 'a method of archiving an item . . . comprising:

**presenting the item [DICOM Message]** to a parser...", but that the Examiner on page 4 of the Office Action referring to Claim 3 of the Application asserts that "an input item" is "digitized medical imagery". The inconsistency in input item (the item) as argued by the Examiner renders at least one of the Examiner's conflicting assertions invalid and subsequently the Examiner fails to establish substantial equivalence between Tian and the Application as it pertains to Claim 3.

Having said this, it is further noted that the Examiner's statement that digitized medical imagery is converted to a DICOM Message is also inaccurate. Per standard dictionary definition the term "convert" is defined as to cause change or turn from one state or condition to another; to alter in form, substance or quality; to transform; to transmute; as, to convert water into ice.

On the basis of this definition it is understood that the Examiner asserts that by means of conversion, the digitized medical imagery now becomes a DICOM Message, which is to say that, as described in the Abstract of Tian, the digitized medical imagery is by means of conversion now comprised of a plurality of elements such that a plurality of these elements are grouped into a module, such that plurality of modules are grouped into an Information Entity (IE) such that a plurality of IEs are grouped into an Information Object Description (IOD) such that a plurality of IODs are grouped into a block, such that a plurality of blocks comprise a DICOM message.

As it is understood by one of ordinary skill in the art of digitized medical imagery, were it to be the case that digitized medical imagery to be converted to a DICOM Message, as taught in Tian, the digitized medical imagery would cease to exist as a digitized medical image because the

nature of a DICOM Message as taught in Tian is inconsistent with the fundamental nature of a digitized medical image.

What the Examiner asserts to be the conversion of digitized medical imagery to a DICOM Message is more rightly described in the Summary of the Invention in Tian (with emphasis added), "The digital image is stored in computer memory provided by the PACS. The digital image can then be transmitted to any other PACS or application or device associated with the PACS. A second application program creates **a DICOM message which encapsulates the digital image**. The second application program then send the digital image to a desired destination".

Per standard dictionary definition of the term "encapsulate" to encapsulate is to enclose (an item) in or as if in a capsule; to envelop, wrap up, cover, or surround completely. As it is understood by one of ordinary skill in the art of object oriented application development encapsulation is common to object oriented application development and to encapsulate is to enclose (a message, signal or data) in a set of codes that allow use by or transfer through different computer systems or networks. From these definitions it is understood that the invention taught in Tian does not convert digitized medical imagery to a DICOM Message, but rather encapsulates digitized medical imagery so that it can be transferred through different DICOM Standard compliant computer systems or networks.

For the above reasons the rejection of claim 3 is improper and ought be reversed.

**Claim 4**

Claim 4 of the Application states, "A method as in claim 1 which includes storing a reconciled object structure in the archive without substantial redundancy."

Assuming that the "input item" asserted by the Examiner on page 3 of the Office Action is a DICOM Message and not digitized medical imagery as subsequently asserted by the Examiner on page 4 of the Office Action, it is understood that the Examiner asserts that it is the "reconciled object structure" of a DICOM Message that is stored. Turning to the final paragraph of the Summary of the Invention in Tian, which states (with emphasis added), "In another aspect of the present invention **an apparatus for validating a DICOM message is presented comprising:** a digital computer having a processor and computer memory; **a dictionary class of objects stored in computer memory;** an entry description class of objects **derived from the dictionary class and stored in computer memory**; an item description class of objects **derived from the dictionary class and stored in computer memory**; a module description class of objects **derived from the dictionary class and stored in computer memory**; an entry description class of objects **derived from the dictionary class and stored in computer memory**; an element description class of objects **derived from the dictionary class and stored in computer memory**; a semantic role description class of objects **derived from the dictionary class and stored in computer memory**; a semantic warning description class of objects **derived from the dictionary class and stored in computer memory**; and **a semantic warning list stored in computer memory**.

In light of the above the Examiner's assertion that "Tian further teaches the method of Claim 1, as above, which includes storing a reconciled object structure in the archive is inaccurate

and invalid. It is also pointed out that the Examiner has failed to address the teaching in Claim 4 of the Application which states that reconciled object structure is stored in the archive **without substantial redundancy**, and as such the Examiner's assertion of substantial equivalence between Tian and Burnard, as well as pertaining to Tian's storing of reconciled object structure is also inaccurate and invalid.

For the above reasons the rejection of claim 4 is improper and ought be reversed.

**Claim 5**

Claim 5 of the Application states "A method as in claim 4 which includes selectively editing an object structure, linked to other structures to thereby effect a one-to-many change in a plurality of archived items." Claim 5 makes it clear that the object structure, which is selectively edited per Claim 5 is the object structure taught in Claim 4 of the Application, which is to say that the reconciled object structure that is selectively edited is stored in the archive and the reconciled object structure that is selectively edited is stored in the archive "without substantial redundancy".

Examination of the Examiner's citation of Columns 8-10 in Tian one finds a single reference to the correction of DICOM Messages, wherein it states (with emphasis added), "DTGVWarning provides a warning code and warning text which is returned to the application invoking validation. **The warnings enable the application developer to identify and correct errors in a DICOM message** of which the present invention generates validation warnings".

From the Examiner's citation from Tian one sees that although warnings (generated by the invention taught in Tian) enable the application developer to identify and correct errors in a

DICOM message, it is the warning generated by the invention taught in Tian that is stored and the warnings are stored in computer memory by the application program requesting validation. Per the Abstract of Tian, it states (with emphasis added), "These **warnings are stored in the list created in computer memory by the application program requesting validation**". Obviously warnings stored in the list created in computer memory by the application program requesting validation is not equivalent to object structures previously stored in an archive, as is stated in Claim 4 of the Application and of which Claim 5 is a method.

Per the Examiner's cited Operational Scenarios in Tian it is stated (with emphasis added), "DTModuleDictionaryEntry provides a list of instances of a class which makes up the content of a single instance of DTModuleDictionary. This object identifies the name of a module and contains **a list of pointers to DTElementModuleDescription objects**, which describe the attributes used in a particular module". From this language it is understood that the pointers referenced by the Examiner pertain to a list of class instances making up a single instance of DTModuleDictionary, which identifies the name of a module and contains a list of pointers to DTElementModuleDescription objects. The pertinence of this citation is not established buy the Examiner relative to Claim 5 in the Application as the reference to "a list of pointers to DTElementModuleDescription objects" fails to establish the involvement of "a list of pointers" to "other structures to thereby effect a one-to-many change in a plurality of archived items", as claimed.

Also from the Examiner's citation in Operational Scenarios in Tian, it states (with emphasis added), "DTSopModuleDictEntry 109 provides a class of items that are contained in a list by the DTSopModuleDictionary object **This object identifies the name of the SOP module. It also**

**contains pointers to a list of DTElementSopDescription objects, which describe element that are in the dictionary entry**. From this language in Tian, the relationship between the pointers contained in the DTSopModuleDictionary object and a method to effect a one-to-many change in a plurality of archived items, per Claim 5 in the Application is not established. In light of this absence of relationship, the Examiner's assertion that *Tian further teaches the method of Claim 1, as above,* which includes selectively editing an object structure, linked to other structures to thereby effect a one-to-many change in a plurality of archived items" is inaccurate and invalid.

As a final point concerning the Examiner's assertion that Tian includes selectively editing an object structure, linked to other structures to thereby effect a one-to-many change in a plurality of archived items, the Examiner has failed to establish that the "pointers" referenced and/or the "attribute lists which are separated into the different levels of the DTMessage inheritance for the purpose of reuse" pertain to selectively editing "archived items" as taught in Claim 5 of the Application.

For the above reasons the rejection of claim 5 is improper and ought be reversed.

**Claims 6 and 7**

The Office Action identifies no basis for rejection claims 6 and 7. Presumably, they should be allowed, as stated in the Office Action Summary.

**Claim 9**

Claim 9 of the Application States"A method as in claim 1 which includes forming object oriented data structures from the parsed items wherein the data structures include at least some of item properties, item property values, element properties and element property values."

The Examiner's citation of Tian Column 4, lines 20-40 states (with emphasis added), "The present invention **provides a structure of class dictionaries** which enable the process of the present invention to determine the semantic requirements of each DICOM message under various operational conditions. Each class dictionary contains a series of pages or entries that contain definitions of the classes and messages. The structure provides at least one page or entry of the class dictionary for each class that exists. Class dictionary entries follow the same basic format providing the same basic information. Class information comprising the name of the file or object containing the class dictionary entry, the name of the class that the dictionary entry describes, a "subclassing value," which indicates whether subclassing performance is "never," "optional," or "required,"; the name of a parent class from which the class is derived, the name of the subsystem to which the class belongs, the name of the author, a high-level definition of the class, a high-level list of attributes that belong to the class; a high-level list of responsibilities and collaborations of the class; and a list of elements, element values, modules, conditional rules or warnings."

Clearly the Examiner's assertion that Tian teaches a method of Claim 1, "which includes forming object oriented data structures from the parsed items" is inaccurate as the Examiner's citation plainly states that the invention taught in Tian *provides* a structure of class dictionaries, which is not "from the parsed items" as in Claim 1.

For the above reasons the rejection of claim 9 is improper and ought be reversed.

**CLAIM 10**

Independent claim 10 specifies an object, oriented archival system comprising a storage medium, and a set of executable instructions for establishing an archive of documents represented by linked object oriented elements stored in the medium. The archive exhibits minimal redundancy with at least some elements linked to pluralities of the elements and wherein some of the instructions, in response to a selected editing command, alter at least one element common to and linked to a selected plurality of other elements to thereby effect a one-too-many editing process and additional instructions for compiling an output file, in a selected format.

The action indicates that claim 10 is rejected on substantially the same basis as claim 1. However, there is no detailed explanation as to how each and every element of claim 10, arranged as in the claim, is found in Tian et al. In fact, they are not. As noted above, Tian et al. does not relate to archiving documents. It relates to semantically validating a message. It does not relate to an archive exhibiting minimal redundancy. Nor does it relate to altering at least one element common to and linked to a selected plurality of other elements to affect a one-too-many editing process. Nor does the action reference any such teaching.

As above, relative to claim 1, from this language one sees that the "method of archiving an item" provides a method corresponding to "an object oriented archival system" and that the multi-part object structures similarly correspond to the establishment of an archive of documents represented by linked object oriented elements. One also sees that the object structures are in fact

structures consistent with the established dictionary definition for structures as the relationship between elements is accomplished via linking.

The Examiner's assertion on Page 5 in the Office Action states "Claim 10 is rejected on substantially the same basis as claims 1-7 above." In response to the Examiner's assertion it is first noted that the Examiner provides no assertions, arguments, comments or evidence in the Office Action pertaining to Claims 6 or 7 of the Application. In further response to the Examiner's assertion, it is next pointed out that Tian does not teach a PACS and instead makes reference to a PACS. The invention taught in Tian is not a PACS. It is understood by one of ordinary skill in the art of PACS that PACS is not an invention of, or part of, an invention taught in Tian.

Applicant incorporates the arguments presented above relative to Claim 1 regarding Tian's failure to disclose or suggest archiving. In further response to the Examiner's rejection of Claim 10 in the Application it is also pointed out that the Examiner has failed to address the portions of Claim 10 in the Application, which teach that: 1) documents are "represented by linked object oriented elements"; 2) "the archive exhibits minimal redundancy"; 3) "wherein some of the instructions, in response to a selected editing command, alter at least one element common to and linked to a selected plurality of other elements" 4) "thereby effect a one-to-many editing process"; 5) provides "additional instructions for compiling an output file, in a selected format".

In further explanation of point 3, above, it is noted that although the Examiner cites Tian's reference to pointers, the Examiner's citation, which states, "DTModuleDictionaryEntry provides a list of instances of a class which makes up the content of a single instance of DTModuleDictionary. This object identifies the name of a module and contains a list of pointers to

DTElementModuleDescription objects, which describe the attributes used in a particular module" fails to address the language in Claim 10 of the Application, which states (with emphasis added), "wherein **the archive exhibits minimal redundancy** with at least some elements linked to pluralities of the elements and **wherein some of the instructions, in response to a selected editing command, alter at least one element common to and linked to a selected plurality of other elements to thereby effect a one-to-many editing process**". As this is the case the Examiner's rejection of Claim 10 in the Application fails to meet the burden of proof for establishing substantial equivalence.

For the above reasons the rejection of claim 10 is improper and ought be reversed.

**Claims 12-18**

The Examiner's third assertion on Page 5 in the Office Action states "Claims 12-15 and 18 are rejected on substantially the same basis as claim 9 in light of the basis for claim 10 above. See discussions, above, regarding claims 1-7, 9 and 10.

Claims 12, 13, 14, 15 and 18 state (with emphasis added):

"12. **A system as in claim 10** which includes **instructions for storing object oriented elements incorporating property elements and associated values**."

"13. **A system as in claim 12** which includes additional **instructions for storing document properties and property values**."

"14. **A system as in claim 13** wherein the **executable instructions link selected property elements with selected document properties and values**."

"15. **A system as in claim 10** wherein **archived object oriented elements comprise a data structure which incorporates document properties and associated values**."

"18. **A system as in claim 10** wherein a **document can be represented by a plurality of linked object-type data structures which include document properties; document property values, element properties and element property values**."

**Claims 12 and 13**

As it pertains to Claims 12 and 13 in the Application, one sees in the Abstract in Tian that the warnings that are stored are "stored in the list created in computer memory by the application program requesting validation". As stated in the Abstract in Tian (with emphasis added), "The present invention generates warnings regarding the semantic validation of the DICOM message. These **warnings are stored in the list created in computer memory by the application program requesting validation. The transformed physical image is stored into computer memory and transferred via a DICOM message after the application program has received a list of semantic warnings from the present invention**".

Per this disclosure in Tian one understands that it is not the invention taught in Tian that performs the storing of warnings and transformed physical image, but rather the application program requesting validation. It is also understood from this language that it is not "object oriented elements incorporating property elements and associated values" or "document properties and property values", per Claims 12 and 13 in the Application, but warnings that are stored, which fails to establish substantial between the invention taught in the Application and the invention taught in Tian.

Per Claim 10, parts b-h, in Tian one sees that the invention taught has an apparatus for validating DICOM Messages comprising (among other things) the stored dictionary class of objects; an entry description class of objects derived from the dictionary class; an item description class of objects derived from the dictionary class; an item description class of objects derived from the dictionary class; an item description class of objects derived from the dictionary class; a semantic warning description class of objects derived from the dictionary class and a semantic warning list. From the language of Claim 10 in Tian one fails to see that the invention taught in Tian "*includes instructions* for storing object oriented elements incorporating property elements and associated values" or "*includes additional instructions* for storing document properties and property values" and as a result, evidence of substantial equivalence between the invention taught in the Application and the invention taught in Tian is not established.

The Summary of the Invention taught in Tian states (with emphasis added), "The **digital image is stored** in computer memory provided by the PACS". From this language one sees that it is the digital image which is stored (presumably by the invention taught, although the language makes this unclear), and not "object oriented elements incorporating property elements and associated values" or "document properties and property values", per Claims 12 and 13 in the Application. On the basis of this language evidence of substantial equivalence between the invention taught in the Application and the invention taught in Tian is not established. From the language of the Summary of the Invention in Tian one fails to see that the invention taught in Tian "*includes instructions* for storing object oriented elements incorporating property elements and associated values" or "*includes additional instructions* for storing document properties and property values"

and as a result, evidence of substantial equivalence between the invention taught in the Application and the invention taught in Tian is not established.

From the Detailed Description of a Preferred Embodiment in Tian it states (with emphasis added), "The present invention provides object classes of rules and warnings, which do not exist in the DICOM standard. These rules and warnings semantically validate the thousands of possibilities using class rules, which are represented in a set of rule objects presented by the structure of the present invention." (example omitted) "The rules are represented in a rule language and reduced to a string test representing each rule. **The structure of the present invention reduces the string test to a set of tokens which are stored in a data dictionary existing in computer memory**. This token structure enables parsing each rule. Thus a DICOM message is reduced to an element list and processed according to the data dictionary rules for semantic validation. **When the rules are violated, the method of the present invention generates a semantic warning and stores the warning in the semantic validation warning list created in computer memory by an application requesting validation**".

From the example provided in the Detailed Description of a Preferred Embodiment in Tian, one sees that "a set of tokens" derived from a string test of rules language representing each rule are stored by the invention taught in Tian. As it is the case that Tian does not establish that "a set of tokens" are in any way object oriented elements incorporating property elements and associated values" or document properties and property values" as claimed in Claims 12 and 13 in the Application evidence of substantial equivalence between the invention taught in the Application and the invention taught in Tian is not established.

Although Tian makes numerous other references to storing, all of these references are substantially the same as the examples provided above and fail to verify the Examiner's assertion that the invention taught in Tian "*includes instructions* for storing object oriented elements incorporating property elements and associated values" or "*includes additional instructions* for storing document properties and property values" and as a result, evidence of substantial equivalence between the invention taught in the Application and the invention taught in Tian is not established.

For the above reasons the rejection of claims 12 and 13 is improper and ought be reversed.

**Claim 14**

Claim 14 in the Application states (with emphasis added), "**A system as in claim 13** wherein the **executable instructions link selected property elements with selected document properties and values**."

Similar to Claim 5, above, the Examiner's citation of "pointers" in the Operational Scenarios of Tian fail to establish that the invention in Tian teaches executable instructions for linking selected property elements with selected document properties and values, as claimed in Claim 14 of the Application. As such the Examiner's reference ""See discussions regarding Claims 1-7, 9 and 10 for details of this disclosure" fails to substantiate a rejection of Application Claim 14 as claimed. It is further noted, once again, that Tian provides no teaching of, and makes no reference to, documents of any kind and as such, rejection of Claim 14 in the Application based on an argument of substantial equivalence is invalid as no such substantial equivalence can be evidenced.

For the above reasons the rejection of claim 14 is improper and ought be reversed.

**Claims 15 and 18**

Claim 15 in the Application states (with emphasis added), "**A system as in claim 10** wherein **archived object oriented elements comprise a data structure which incorporates document properties and associated values**."

Claim 18 in the Application states (with emphasis added), "**A system as in claim 10** wherein a **document can be represented by a plurality of linked object-type data structures which include document properties; document property values, element properties and element property values**."

The Examiner's rejection of Application Claims 15 and 18 are similarly unsubstantiated via Examiner citations of substantial equivalence. Tian provides no teaching of, and makes no reference to, documents of any kind and as such, rejection of Claim 14 in the Application based on an argument of substantial equivalence is invalid as no such substantial equivalence can be evidenced.

For the above reasons the rejection of claims 15 and 18 is improper and ought be reversed.

**Claim 16**

Claims 16 states (with emphasis added); **A system as in claim 15 wherein document properties carry a linking tag**."

The Examiner's rejection of Application Claim 16 is similarly unsubstantiated via Examiner citations of substantial equivalence. The action does not identify any and Tian provides no teaching of, and makes no reference to, documents of any kind and as such, rejection of Claim 16 in the Application based on an argument of substantial equivalence is invalid as no such substantial equivalence can be evidenced in Tian, as asserted by the Examiner.

Clearly according to the teachings of Tian and the DICOM Standard for DICOM Messages, which are referred to repeatedly in Tian, a DICOM Message is a means of communication between medical imaging devices and/or computers functioning in a medical imaging capacity and is not a document as determined from standard dictionary definition. Per standard dictionary the primary definition of a document carries with it the understanding that documents are produced by and intended for the use of human beings, and not medical imaging devices or computers. To assert that a DICOM Message is substantially equivalent to a document constitutes an assertion that commonly used conventions of communication via the English language can not, and by implication, should not be used in the application for patents, and by implication, the issuing of patents, patent appeals or legal proceeding concerning patents.

For the above reasons the rejection of claim 16 is improper and ought be reversed.

**Claim 17**

Claim 17 states (with emphasis added); **A system as in claim 10** wherein **executable instructions compare incoming object oriented elements to archived elements to thereby minimize redundancy in the archive**."

The Examiner's rejection of Application Claim 17 is similarly unsubstantiated via Examiner citations of substantial equivalence. The action does not identify and Tian provides no teaching of, and makes no reference to, documents of any kind and as such, rejection of Claim 14 in the Application based on an argument of substantial equivalence is invalid as no such substantial equivalence can be evidenced in Tian, as asserted by the Examiner.

Clearly according to the teachings of Tian and the DICOM Standard for DICOM Messages, which are referred to repeatedly in Tian, a DICOM Message is a means of communication between medical imaging devices and/or computers functioning in a medical imaging capacity and is not a document as determined from standard dictionary definition. Per standard dictionary the primary definition of a document carries with it the understanding that documents are produced by and intended for the use of human beings, and not medical imaging devices or computers. To assert that a DICOM Message is substantially equivalent to a document constitutes an assertion that commonly used conventions of communication via the English language can not, and by implication, should not be used in the application for patents, and by implication, the issuing of patents, patent appeals or legal proceeding concerning patents.

For the above reasons the rejection of claim 17 is improper and ought be reversed.

**Claim 19**

The Examiner's second assertion on Page 6 in the Office Action states "Referring to Claim 19, Tian teaches a method of Claim 10, as above, wherein the output file [DICOM

Message] comprises...an input for an electronic network [input to another PACS system over a PACS network] as claimed".

Claim 19 of the Application states (with emphasis added), "A system as in claim 10 wherein **the output file** comprises **at least one of** an input for a printer, an input for a printing press, **and** an input for an electronic network."

From the Examiner's comment, above the Examiner has apparently misinterpreted the language of Claim 19 to mean that *an* output file comprises at least one of an input for a printer, an input for a printing press, *or* an input for an electronic network, thus giving the reader of the application the opportunity to choose the type of input file to consider or respond to. This is, however, not the case. The language of Claim 19 states that the output file is seen as an input by a printer, a printing press and a electronic network as any single case may be.

The use of the phrase "at least" in Claim 19 is not intended to, nor does it, imply a limitation of inputs to either a printer, a printing press or an electronic network, but is instead meant to, and does, indicate that the output file, depending on the circumstances, is seen as an input, by at least one of, a printer, a printing press and a electronic network.

Further to the Examiner's assertion pertaining to Claim 19 of the Application it is pointed out that Tian makes no reference to an output file of any type. Per the Summary of the Invention in Tian (with emphasis added), "**A second application program creates a DICOM message which encapsulates the digital image. The second application program then send the digital image to a desired destination**".

One notes that Tian's reference to the sending of an encapsulated digital image may be interpreted as being equivalent to an output file. It is also noted that Tian does not choose the phrase "output file". It is further noted that were the invention taught in Tian to be an archive, the phrase "output file" would be appropriate as it is understood by one of ordinary skill in the art of archiving (an archivist) that an archive "contains" that which is archived and for that which is contained by an archive to be of use beyond the archive it would need to be removed (output) from the archive. This is, of course, not the case as it applies to a digital image encapsulated in a DICOM Message, as taught per Tian because the invention taught in Tian is not an archive and as such, does not "contain" DICOM Messages, which would require "output" (removal from the archive).

As has been noted above and is substantiated in the DICOM Standard, the invention taught in Tian addresses the validation of communications (DICOM Messages) between medical imaging devices and/or computers functioning in a medical imaging capacity. As such these communications (DICOM Messages) are not data intended for human use (such as would be the case for documents), and instead pertain to data exchanged between medical imaging devices and/or computers functioning in a medical imaging capacity. With this being the case, it is logical and substantiated in the teachings of Tian, as well as in the DICOM Standard, that DICOM Messages, as specified in the DICOM Standard and taught in Tian are not "output" to printers or printing presses. Tian provides no teaching pertaining to the output of medical images to either printers or to printing presses.

For the above reasons the rejection of claim 19 is improper and ought be reversed.

**GROUND 2**

**Claim 20**

Claim 20 of the Application states (with emphasis added), "**A method as in claim 1 for generating layers corresponding to color separations for a printing process** comprising: **establishing an archive populated with a plurality of graphically oriented object-type structures** wherein a first plurality of the structures represents a first layer, **corresponding to a color separation for a multi-color output document**, wherein the members of the first plurality are linked to establish element definitions and locations, relative to one another, in the first layer, and, at least a second plurality of the structures wherein the second plurality represents a second layer corresponding to a second color separation for the output document wherein the members of the second plurality are linked to establish element definitions and locations, relative to one another, in the second layer, and, wherein **the establishing step includes, analyzing the members of the first and second pluralities for common structures**, and storing a representation of only one structure in the event that multiple common structures are detected."

With respect to Claim 20, on which many of the Examiner's rejections of Claims 21-28 and Claim 11 are based, the Examiner asserts that "Tian and Burnard teaches the invention substantially as claimed. Tian teaches a method of generating layers corresponding to separations in an object". This is inaccurate. Tian does not teach a method of generating layers and, instead provides layers as an aspect of the invention taught. The Examiner further asserts that Tian establishes an archive populated with a plurality of object-type structures wherein a first plurality of structures represents a first layer, which is also inaccurate. Tian does not teach establishing an

archive of any kind, and as has been proven earlier in this document Tian is not a PACS, does not contain a PACS and is not an archive of any kind. The function of storing warnings, as taught by Tian is not equivalent to the function of archiving as taught in the Application. The Examiner further asserts that Tian teaches that members of the first (archived) plurality are linked to establish element definitions and locations, relative to one another, in the first layer, which is also inaccurate. Tian, instead teaches "a pointer to validation information regarding Module Requirement types and Semantic Item Entry descriptions" and a pointer, provided by DTNormalizedSopIodDictionary object "to a DTEventModuleSopDescription object and a list of DTNonEventModuleSopDescription objects, which describe each DIMSE service related IOD subset definition associated with the normalized SOP IOD entry", which is not equivalent to members of the first (archived) plurality which are linked to establish element definitions and locations, relative to one another, as taught in the Application. The Examiner further asserts that Tian teaches at least a second plurality of the (archived) structures wherein the second plurality represents a second layer wherein the members of a second plurality are linked to establish element definitions, which is inaccurate on the same basis as the Examiner's previous assertion. The Examiner further asserts that Tian teaches that the establishing step (establishing an archive) includes analyzing the members of the first and second pluralities for common structures, which is also incorrect, as Tian does not teach establishing an archive, nor does Tian teach analyzing the members of the first and second pluralities for common structures. The use of the term "common" in Claim 20 of the Application does not mean, occurring, found, or done often; prevalent, and instead means, shared by, or present in more than one instance.

It's also noted that in the Examiner's assertions thus far, the Examiner has conveniently omitted references to "output document" as claimed. This omission is understood because neither Tian or Burnard provide any teaching of an output document.

Continuing with response to the Examiner's assertions concerning Claim 20 in the Application, the Examiner asserts that Tian's documents [DICOM messages] are multi-color output documents in that they include digital medical images, which is not entirely accurate. Tian has no documents as the term document is defined in a standard English dictionary. Tian, instead validates and creates DICOM Messages, which encapsulate digital medical images in some, but not all, cases. As has been pointed out above, Tian provides no teaching of an output document. Further, of the DICOM Messages that encapsulate digital medical images, the preponderance of these digital medical images are in gray scale color space, which is to say that these images are rendered in values of black and not "color", as asserted by the Examiner. In further pursuit of accuracy and validity concerning the Examiner's assertions, it is, at least misleading to say that DICOM Messages "include" digital medical images, as the term include is defined per standard English dictionary as meaning to comprise or contain as part of a whole, whereas the term encapsulate is defined in standard English dictionary as in computing, to enclose (a message or signal) in a set of codes that allow use by or transfer through different computer systems or networks. The Examiner further asserts that the Examiner's previous inaccurate assertions provide suggestion for generating layers in the structured environment to correspond to the colors in the document, which based on the inaccuracy of the examiner's previous assertions the suggestion asserted is invalid.

As has been addressed above, Tian is not an archive of any type. Additionally, the phrase "output" file is inappropriate to Tian as Tian provides no teaching of an output of any kind. More particularly, Tian provides no teaching of the output of anything to a printing press, for which color separations would be necessary.

Tian addresses the validation of communications (DICOM Messages) between medical imaging devices and/or computers functioning in a medical imaging capacity. As such these communications (DICOM Messages) are not data intended for human use (such as would be the case for documents), and instead pertain to data exchanged between medical imaging devices and/or computers functioning in a medical imaging capacity. With this being the case, it is logical and substantiated in the teachings of Tian, as well as in the DICOM Standard, that DICOM Messages, as specified in the DICOM Standard and taught in Tian are not "output" to printers or printing presses. Tian provides no teaching pertaining to the output of medical images to either printers or to printing presses.

The invention taught in Burnard, provides a means of translating user interfaces in application programs (localization) and also provides no teaching of an output to printers or to printing presses other than as it pertains specifically to the translation/localization of user interfaces.

It is further pointed out that the term layer(s), as taught in Tian and Burnard pertains to methods of object oriented program development. As it is known to one of ordinary skill in the art of object oriented programming a layer is a group of object classes that have the same module dependencies to other modules, which is to say that a layer is a group of reusable application program code that can be reused in similar circumstances. As it is further known to one of ordinary

skill in the art of object oriented application program development layers are often arranged in a tree-form hierarchy (as is the case for the object data model used in the teachings of Burnard), with dependency relationships such as inheritance (as is the case for the object data model used in the teachings of Tian), composition or aggregation.

Conversely, as it is known to one of ordinary skill in the art of document origination application programs and color separation application programs, layers enable the superimposition of different types document text and graphics content such that one can see (on computer monitor), separately manipulate and/or output (print) any combination of layers of document content. As it is further known to one of ordinary skill in the art of document origination application programs and color separation application programs, document origination application programs providing layering features include such widely used applications as Adobe Illustrator, Adobe Photoshop and Adobe In Design, as well as applications such as Microsoft Word, which provides implicit layering via "send to back" and "bring to front" features and color separation application programs include such widely used applications as those developed by such color separation market leading companies as Kodak Graphics Communications Group, Esko-Graphics and ArtPro.

It is further still, known and obvious to one of ordinary skill in the art of document origination application programs and color separation application programs that the types of object layers taught in Tian and Burnard are incompatible with, and incapable of, the layering of document content according to the color separation requirements for multi-color printing, via printing press.

As it pertains to the Examiner's assertion that, "It would have been obvious to one of ordinary skill in the art at the time the invention was made to add Ringness' method for separating

colors into separate object structures for each color layer to the Tian-Brunard's system, so as to separate the colors within Tian's DICOM messages for archival purposes, to obtain the invention as claimed", this assertion is not supportable.

As discussed above, it is highly improbable that one of ordinary skill in the art would have reasonable cause to be aware of both the invention taught in Tian and the invention taught in Burnard and, were such an improbable awareness to exist, it is far from obvious to one of ordinary skill in the art how the features of Burnard could be added to Tian's system in a manner that would enable the functioning of either or both inventions in a predictable manner relative to the purpose and intent of Tian and Burnard.

It is beyond improbable that one of ordinary skill in the art would also find it obvious to add Ringness' method for separating colors into separate object structures for each color layer to the Tian-Burnard's system", as the far from ordinary level of expertise required for one skilled in the art to be aware of both the invention taught in Tian and the invention taught in Burnard would be compounded to the point of highly exceptional for one skilled in the art to also be aware of the invention taught in Ringness.

The field involved with the invention taught in Ringness involves a level of expertise that encompasses the entire careers of application program developers and involves, in addition to application program development skills, expertise in PostScript and Encapsulated PostScript code, expertise in the field of colorimetrics, expertise in the field of color separations and expertise in the field of printing presses, of which there are multiple printing processes (lithography, flexography,

gravure, silkscreen, etc.). Any one of these fields involves a level of skill that ordinarily excludes skill in, or awareness of, other fields (arts).

Returning to the Examiner's assertion, as stated (with emphasis added), "It would have been obvious to one of ordinary skill in the art at the time the invention was made to add Ringness' **method for separating colors into separate object structures for each color layer to the Tian-Brunard's system, so as to separate the colors within Tian's DICOM messages for archival purposes**, to obtain the invention as claimed. One would have been motivated to do so because of Tian-Brunard's suggestion as above, and to further meet Ringness' disclosed need (See Column 2, lines 49-54) for more efficient methods of generating object structures for printing purposes **by expanding the method to other formats, such as the DICOM message** used by the medical community, to make printing the medical information in the DICOM message more efficient."

In review of the Examiner's language above, one first notes that Ringness provides no teaching of object structures ("method for separating colors into separate object structures"), as taught in Tian or Burnard. Object structures as taught in Tian and Burnard pertain to object oriented data modeling and object oriented application program development, whereas, Ringness' references to objects pertain to graphic elements contained in graphic-type documents. This difference would be seen by one of ordinary skill in the art, as a substantial incompatibility between an improbable Tian-Brunard system and Ringness' method for separating colors for printing press processes, which renders the possibility of the addition of Ringness' method for separating colors to an improbable Tian-Brunard system substantially more improbable, if not impossible.

Further, the Tian system, as well as the Burnard system, as taught, are incapable of recognizing, storing, archiving, or in any other way utilizing color layers. In the case of Tian, the DICOM Standard, for which Tian teaches the validation of DICOM Messages, there is no programming code pertaining to color layers. In the case of Burnard, the invention taught utilizes layers (in a hierarchical tree model) for the translation/localization of application program user interfaces, and is also incapable of recognizing or utilizing color layers.

The Examiner's assertion that it would have been obvious to one of ordinary skill in the art at the time the invention was made to "add Ringness method for separating colors into separate object structures for each color layer to the Tian-Burnard's system, so as to separate the colors within Tian's DICOM messages *for archival purposes*" is not supportable. The purpose of color separation as taught by Ringness is to enable multi-color printing via printing press and is not for archival purposes, as asserted by the Examiner. Were one utilizing Ringness' invention as it is taught and intended to subsequently want to archive the product produced by the invention taught in Ringness there are already many different archival systems available for this purpose that would not require the level of effort, time and cost involved with adding Ringness' method... to an improbable Tian-Burnard system.

The Examiner's assertion that it would have been obvious to one of ordinary skill in the art, and that one of ordinary skill in the art would have been motivated to add Ringness' efficient methods of generating object structures for printing purposes to an improbable Tian-Burnard system "by expanding the method to other formats, such as the DICOM message" is an unsubstantiated assumption and highly unlikely.

As has been addressed repeatedly in this document, DICOM Messages are system-to-system software code designed to enable data exchanges between medical imaging devices and/or computers used in a medical imaging capacity. For the methods of color separation taught by Ringness to be capable of being expanded to accommodate the DICOM Message format, one of extraordinary skill in the arts of Tian, Burnard and Ringness would have to undertake the intensely arduous and costly effort to render the invention taught in Ringness compliant with the DICOM Standard's requirements for DICOM Messages. To assert that one of ordinary skill would be motivated to engage in such an undertaking assumes that one of ordinary skill would accomplish a desirable return on investment for such an undertaking, or in other words, that there would be significant demand for printing DICOM Messages on a printing press. One can only imagine what a DICOM Message would look like were it to be printed to a printing press.

With one of ordinary skill in the art already having a more efficient means to color separate medical images in a manner consistent with the invention taught in Ringness, one of ordinary skill in the art would not be motivated (as is asserted by the Examiner) to add Ringness' efficient methods of generating object structures for printing purposes to an improbable Tian-Burnard system "by expanding the method to other formats, such as the DICOM message" because the effort, time and cost for accomplishing such an expansion (assuming that it were possible) would not provide one of ordinary skill in the art with a reasonable return on investment for having done so.

On this basis, and the points previously made concerning the Examiner's assertion that it would have been obvious to one of ordinary skill in the art to "add Ringness' method for

separating colors into separate object structures for each color layer to the Tian-Burnard's system, so as to separate the colors within Tian's DICOM messages for archival purposes, to obtain the invention as claimed is inaccurate and invalid.

Further, the Examiner's assertion that one (of ordinary skill in the art) would have been motivated to add Ringness' method... to an improbable Tian-Burnard system because of Tian-Burnard's suggestion as above, and to further meet Ringness' disclosed need for more efficient methods of generating object structures for printing purposes by expanding the method to other formats, such as the DICOM message used by the medical community, to make printing the medical information in the DICOM message more efficient is also inaccurate and invalid.

For the above reasons the rejection of claim 20 is improper and ought be reversed.

**Claim 21**

Claim 21 specifies a method as in claim 20 **which includes converting at least one new document to a predetermined input format, and parsing the document to a third plurality of object oriented type structures**."

The action states "Claims 21-23 are rejected on substantially the same basis as Claim 1 above in light of the basis for Claim 10. See the discussions regarding Claims 1 and 20 for details of this disclosure." Applicants arguments with respects to these claims are presented above. The Action includes no discussion regarding the express limitations of claim 21, underlined above, in the cited references. This is because these limitations are not found in the references. Claim 21 is believed allowable for this reason as well.

For the above reasons the rejection of claim 21 is improper and ought be reversed.

**Claim 22**

Claim 22 specifies a method as in claim 21 **which includes evaluating the members of the third plurality in accordance with at least one of a predetermined rule and a predetermined standard**."

The action states "Claims 21-23 are rejected on substantially the same basis as Claim 1 above in light of the basis for Claim 10. See the discussions regarding Claims 1 and 20 for details of this disclosure." Applicants arguments with respects to these claims are presented above. The Action includes no discussion regarding the express limitations of claim 22, underlined above, in the cited references. This is because these limitations are not found in the references. Claim 22 is believed allowable for this reason as well.

For the above reasons the rejection of claim 22 is improper and ought be reversed.

**Claim 23**

Claim 23 specifies a method as in claim 22 **which includes producing at least one of a report and a visual display of the results of the evaluating step**."

The action states "Claims 21-23 are rejected on substantially the same basis as Claim 1 above in light of the basis for Claim 10. See the discussions regarding Claims 1 and 20 for details of this disclosure." Applicants arguments with respects to these claims are presented above. The Action includes no discussion regarding the express limitations of claim 23, underlined above, in

the cited references. This is because these limitations are not found in the references. Claim 23 is believed allowable for this reason as well.

For the above reasons the rejection of claim 23 is improper and ought be reversed.

**Claim 24**

Claim 24 specifies a method as in claim 23 **which includes editing the visual display thereby altering at least one of the members of the third plurality**."

The action states "Claims 24-28 are rejected on substantially the same basis as Claims 2-7, in light of the basis for Claims 20-23. See the discussions regarding Claims 1-7, 10 and 20 above for the details of this discussion." Applicants arguments with respects to these claims are presented above. The Action includes no discussion regarding the express limitations of claim 24, underlined above, in the cited references. This is because these limitations are not found in the references. Claim 24 is believed allowable for this reason as well.

For the above reasons the rejection of claim 24 is improper and ought be reversed.

**Claim 25**

Claim 25 specifies a method as in claim 21 **which includes comparing the object structures to the prestored contents of a selected archive and adding only non-redundant object structures to the archive** and establishing at least one added link to a pre-stored object structure in the event of a detected redundancy **wherein the contents of the archive are substantially non-redundant**."

The action states "Claims 24-28 are rejected on substantially the same basis as Claims 2-7, in light of the basis for Claims 20-23. See the discussions regarding Claims 1-7, 10 and 20 above for the details of this discussion." Applicants arguments with respects to these claims are presented above. The Action includes no discussion regarding the express limitations of claim 25, underlined above, in the cited references. This is because these limitations are not found in the references. Claim 25 is believed allowable for this reason as well.

For the above reasons the rejection of claim 25 is improper and ought be reversed.

**Claim 26**

Claim 26 specifies a method as in claim 21 **which includes compiling at least one output document into a predetermined output formal from a plurality of archived object structures**."

The action states "Claims 24-28 are rejected on substantially the same basis as Claims 2-7, in light of the basis for Claims 20-23. See the discussions regarding Claims 1-7, 10 and 20 above for the details of this discussion." Applicants arguments with respects to these claims are presented above. The Action includes no discussion regarding the express limitations of claim 26, underlined above, in the cited references. This is because these limitations are not found in the references. Claim 26 is believed allowable for this reason as well.

For the above reasons the rejection of claim 26 is improper and ought be reversed.

**Claim 27**

Claim 27 specifies a method as in claim 20 **which includes editing a plurality of layers, substantially simultaneously, by altering a single object structure, common to all of the layers**."

The action states "Claims 24-28 are rejected on substantially the same basis as Claims 2-7, in light of the basis for Claims 20-23. See the discussions regarding Claims 1-7, 10 and 20 above for the details of this discussion." Applicants arguments with respects to these claims are presented above. The Action includes no discussion regarding the express limitations of claim 27, underlined above, in the cited references. This is because these limitations are not found in the references. Claim 27 is believed allowable for this reason as well.

For the above reasons the rejection of claim 27 is improper and ought be reversed.

**Claim 28**

Claim 28 specifies a method as in claim 25 **which includes editing a plurality of documents, substantially simultaneously, by altering a single object structure common to all of the documents**."

The action states "Claims 24-28 are rejected on substantially the same basis as Claims 2-7, in light of the basis for Claims 20-23. See the discussions regarding Claims 1-7, 10 and 20 above for the details of this discussion." Applicants arguments with respects to these claims are presented above. The Action includes no discussion regarding the express limitations of claim 28,

underlined above, in the cited references. This is because these limitations are not found in the references. Claim 28 is believed allowable for this reason as well.

For the above reasons the rejection of claim 28 is improper and ought be reversed.

**Claim 11**

Claim 11 defines a system as in claim 10 **which includes instructions for producing a plurality of files corresponding to color separations for printing a multi-color item**."

The action states "Claim 11 is rejected on the same basis as Claim 20, in light of the basis for Claims 1 and 10 respectively. See the discussions regarding Claims 1-7, 10 and 20 above for the details of this discussion." Applicants arguments with respects to these claims are presented above. The Action includes no discussion regarding the express limitations of claim 11, underlined above, in the cited references. This is because these limitations are not found in the references. Claim 11 is believed allowable for this reason as well.

For the above reasons the rejection of claim 11 is improper and ought be reversed.

**Longstanding problem or need**

The invention claimed and taught in the Application provides solutions to longstanding unmet problems and inefficiencies in the archiving, archival use and management of archival content and content characteristics (properties and property values). These solutions are unique in contrast to existing archival systems and are unique in contrast to the inventions taught in Tian, Burnard and Ringness.

Through the unique data model claimed and taught in the Application an archivist would be able to import existing documents from other data repositories and in so doing automatically create an archive that enables archive searching for archived content that is not possible with other archival systems and is also not possible with the inventions taught in Tian, Burnard and Ringness. As is the case with conventional archival systems, search features provided via the Internet and the inventions taught in Tian, Burnard and Ringness, one must open documents, DICOM Messages encapsulating digital images, applications containing user interfaces and color separated files in order to identify if sought content, contained therein is what one seeks. This is because one in not able to search documents, DICOM Messages, application programs and color separated files by a shape, or a color, or a particular typeface, or a contained picture, or a color in a contained picture, or a combination of shapes or typeface characteristics such as point size, or line spacing, etc. This type of searching, opening and inspecting scenario encumbers access to and use of important content to such a degree that many people either simply don't make the effort to find important content that is contained in documents, DICOM Messages, application programs and color separated files, etc. or they invest what can be considerable effort, time and dollars "wading through" large volumes of documents, DICOM Messages, application programs and color separated files until they find what they are seeking.

The separation via parsing of document, DICOM Message, application program and color separated file properties, property values, elements and element property values and the concurrent archiving of this data in an object oriented database enables one to search the archive for

any single of combined set of properties, property values, elements and element property values, which is not possible with existing systems.

In viewing the results of such searches the user would be able to view the sought content as it appears in composite documents, DICOM Messages, application programs and color separated files, or any combination of content in such documents, DICOM Messages, application programs and color separated files, because the linking of archived properties, property values, elements and element property values claimed in the Application would enable users to turn an off various composite or partial composite views rendered to the users computer monitor.

An example of the unique and powerful search capability enabled by the Application as claimed, is that an individual providing color separations, who receives, for instance, a packaging file involving a brand with combinations of shapes that were the same as the combinations of shapes contained in a file that was separated three years prior, and therefore beyond the bounds of memory, would be able to conduct a search of existing shape combinations to identify that the previously separated combination of shapes existed and could be used to save the effort, time and money involved with redundantly color separating what had previously been color separated.

Another example of a solution to a long unmet need, using the same scenario of a color separator, above, would be the ability to identify, upon import of the newly received file for color separation, errors in the execution of brand identity critical elements, resulting from the color separator having established a brand identity rule for the archival content. Such rules, enabled by the invention as claimed could pertain to human executed errors involving shapes, combinations of

shapes, colors, typefaces, typeface size, line spacing, positions within the color separated document, etc.

In the case of the use of the invention as claimed, pertaining to DICOM medical images, a user would be able to conduct a search to identify, for instance, similar MRI scan images to an image being evaluated by a physician in consideration of a possible surgery. This ability, which is not possible with the invention taught in Tian or other types off systems used within a PACS, would make it possible for the physician considering a possible surgical procedure for his patient to find patients of other physicians with similar conditions and contact these physicians to determine what their surgical procedure had been and the outcome of the surgery performed.

In the case of an application program developer involved with the localization of user interfaces in an application program, the developer could, through the invention as claimed, identify typefaces, typeface style characteristics, colors, etc. present in the application program being localized and, if appropriate, change any of these characteristics to better suit the localization of user interfaces to a given locale without having to make the changes to every user interface being localized.

Another example of a solution to a long unmet need provided by the invention as claimed, would be that a color separator, responsible for maintaining an archive of color separated files, who receives instructions from a customer to change the color assigned to text that appears in multiple ads being sent to different publications for insertion would, based on having establishing a user defined rule to eliminate redundant text content, be able to effect a single execution to any one

of the documents archived and thereby automatically change the color assigned to all archived documents.

Similarly, should it be the case that a change was made to the DICOM Standard, which involved changing a particular font, type size or color, the invention as claimed, would enable a single change to be executed that would be automatically applied to all DICOM Standard documents.

Another example of a solution to a long unmet need provided by the invention as claimed, involved the ability of a color separator to establish a user defined rule for maintaining the size and position of common (shared) elements in packaging color separation files such as those that are printed on a printing press can make use of existing image carriers (printing plates and cylinders) thus saving effort, time and money in printing.

Similarly, when applied to a large volume of color separation files containing brand identity (logo) graphics for an organization, the invention as claimed enables users to establish rules that maintain the visual integrity of the organization's graphic identity, thereby eliminating errors in execution which inevitably occur as a result of repetitive manual execution of logos.

Also, in updating brand identities contained in color separated packaging files or corporate identities contained in internal, external and marketing communication documents, the invention as claimed enables these types of updates to be executed once to a single document instance and automatically apply the update to all or any combination of branded documents, as a result of a user defined rule eliminating redundant content and/or redundant style characteristics assigned to the archive's contents.

Neither the invention taught in Tian, Burnard or Ringness provide the as yet unmet capabilities and benefits explained above and the users of all of these inventions would benefit from the effort, time and money saved, as well as the improvement to archived contents quality that the invention as claimed provides.

The rejections of the claims ought be reversed.

Respectfully submitted,

Dated: March 13, 2008

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## CLAIMS APPENDIX

1. A method of archiving an item comprising:

presenting the item to a parser;

parsing the item into a plurality of multi-part object structures wherein portions of the structures have searchable information tags associated therewith;

evaluating the object structures in accordance with object structures previously stored in an archive;

presenting an evaluated object structure for manual reconciliation at least where there is a predetermined variance between the object and at least one of a predetermined standard and a user defined rule.

2. The method as in claim 1 wherein the respective structure can be manually edited after being presented for reconciliation.

3. The method as in claim 1 which includes, before the parsing step, converting an input item to a standardized format for input to the parser.

4. The method as in claim 1 which includes storing a reconciled object structure in the archive without substantial redundancy.

5. The method as in claim 4 which includes selectively editing an object structure, linked to other structures to thereby effect a one-to-many change in a plurality of archived items.

6. The method as in clam 5 which includes compiling an item to be output from the archive, wherein at least one object-type structure of the item has been edited during the one-to-many change and wherein the compiled item includes a plurality of linked object-type structures converted into a predetermined output file formal.

7. The method as in claim 6 which includes compiling a plurality of items wherein the at least one object-type structure had been linked in the archive to members of the plurality.

8. The method as in claim 7 wherein the plurality of items comprises a plurality of color separations and including producing the color separations sequentially wherein at least some of the separations contain a common graphical symbol edited commonly in the archive by editing the respective common respective object structure.

9. The method as in claim 1 which includes forming object oriented data structures from the parsed items wherein the data structures include at least some of item properties, item property values, element properties and element property values.

10. An object, oriented archival system comprising:

a storage medium, and a set of executable instructions for establishing an archive of documents represented by linked object oriented elements stored in the medium, wherein the archive exhibits minimal redundancy with at least some elements linked to pluralities of the elements and wherein some of the instructions, in response to a selected editing command, alter at least one element common to and linked to a selected plurality of other elements to thereby effect a one-to-many editing process and additional instructions for compiling an output file, in a selected format.

11. The system as in claim 10 which includes instructions for producing a plurality of files corresponding to color separations for printing a multi-color item.

12. The system as in claim 10 which includes instructions for storing object oriented elements incorporating property elements and associated values.

13. The system as in claim 12 which includes additional instructions for storing document properties and property values.

14. The system as in claim 13 wherein the executable instructions link selected property elements with selected document properties and values.

15. The system as in claim 10 wherein archived object oriented elements comprise a data structure which incorporates document properties and associated values.

16. The system as in claim 15 wherein document properties carry a linking tag.

17. The system as in claim 10 wherein executable instructions compare incoming object oriented elements to archived elements to thereby minimize redundancy in the archive.

18. The system as in claim 10 wherein a document can be represented by a plurality of linked object-type data structures which include document properties; document property values, element properties and element property values.

19. The system as in claim 10 wherein the output file comprises at least one of an input for a printer, an input for a printing press, and an input for an electronic network.

20. The method as in claim 1 for generating layers corresponding to color separations for a printing process further comprising:

establishing the archive to be populated with a plurality of graphically oriented object-type structures wherein a first plurality of the structures represents a first layer, corresponding to a color separation for a multi-color output document, wherein the members of the first plurality are linked to establish element definitions and locations, relative to one another, in the first layer, and, at least a second plurality of the structures wherein the second plurality represents a second layer corresponding to a second color separation for the output document wherein the members of the second plurality are linked to establish element definitions and locations, relative to one another, in the second layer, and, wherein the establishing step includes, analyzing the members of the first and second pluralities for common structures, and storing a representation of only one structure in the event that multiple common structures are detected.

21. The method as in claim 20 which includes converting at least one new document to a predetermined input format, and parsing the document to a third plurality of object oriented-type structures.

22. The method as in claim 21 which includes evaluating the members of the third plurality in accordance with at least one of a predetermined rule and a predetermined standard.

23. The method as in claim 22 which includes producing at least one of a report and a visual display of the results of the evaluating step.

24. The method as in claim 23 which includes editing the visual display thereby altering at least one of the members of the third plurality.

25. The method as in claim 21 which includes comparing the object structures to the pre-stored contents of a selected archive and adding only non-redundant object structures to the archive and establishing at least one added link to a pre-stored object structure in the event of a detected redundancy wherein the contents of the archive are substantially non-redundant.

26. The method as in claim 21 which includes compiling at least one output document into a predetermined output formal from a plurality of archived object structures.

27. The method as in claim 20 which includes editing a plurality of layers, substantially simultaneously, by altering a single object structure, common to all of the layers.

28. The method as in claim 25 which includes editing a plurality of documents, substantially simultaneously, by altering a single object structure common to all of the documents.

## EVIDENCE APPENDIX

There is no evidence submitted.

## RELATED PROCEEDINGS APPENDIX

There are no related proceedings.